THE ROMANCE OF THE RAILS

AGNES C. LAUT

BOOKS BY AGNES C. LAUT

The Conquest of Our Western Empire
The Blazed Trail of the Old Frontier
Enchanted Trails of Glacier Park
Through Our Unknown Southwest

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According to *Appleton's Journal of Literature* of April 2, 1870 this picture shows "a scene in the famous railway-depot of Chicago, where we see gathered, for the departing train, a group, in striking contrast, of fashionable women, London cockneys, German immigrants, Western pioneers, native Indians, and ever-ubiquitous Yankees. This bustling scene, common to all railway-depots in our great centers, is designed by our artist to specially illustrate the famous passenger station of Chicago, said to be the largest and the handsomest in the world."

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The Romance of the Rails

By
Agnes C. Laut

VOLUME II
ILLUSTRATED

New York
Robert M. McBride & Company
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The Romance of the Rails

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Contents

CHAPTER		PAGE
	PART VI	
	THE FORWARD MARCH TO THE WEST	
XX	How the Civil War Kicked Rail Progress Forward Too Fast for Its Own Good. 1860–1873	311
XXI	The Man on the Job for the Union Pacific. 1860–1873	337
XXII	Getting Across the Sierras and the Big Four of the Central and Southern Pacific. 1860–1900	351
XXIII	Mutterings and Rumblings of the Coming Storm. 1860–1873	382
XXIV	Along the Old Santa Fé Trail. 1820–1893	394
XXV	The Crash of '73 and the Northern Pacific. 1856–1880	423
XXVI	James J. Hill and the Great Northern. 1873–1913	451
XXVII	When Hill and Harriman Collided. 1848–1907	475
	PART VII	
	MODERN BUCCANEERS IN A LATER ERA	
XXVIII	Legal Rascality, Loaded Dice, Light-Fingered Finance, and Modern Buc-	

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CHAPTER		PAGE
	CANEERS. HOW THE INTERSTATE COMMERCE COMMISSION CAME INTO BEING. 1888–1914	517
XXIX	MORE OF MODERN BUCCANEERING. 1900–1923	546
XXX	LAST THOUGHTS	561
	INDEX	571

Illustrations

PAGE

According to *Appleton's Journal of Literature* of April 2, 1870 this picture shows "a scene in the famous railway-depot of Chicago, where we see gathered, for the departing train, a group, in striking contrast, of fashionable women, London cockneys, German immigrants, Western pioneers, native Indians, and ever-ubiquitous Yankees. This bustling scene, common to all railway-depots in our great centers, is designed by our artist to specially illustrate the famous passenger station of Chicago, said to be the largest and the handsomest in the world." *Frontispiece*

Atlanta, Georgia, had one of the earliest and best railroad systems in the South before the Civil War. This old print shows how it appeared on General Sherman's entrance in 1864. 326

The Civil War wreaked havoc on the railroads of the South. This old photograph shows a southern roundhouse at the close of the war. 327

This Currier and Ives print of 1868 represents a scene of the transcontinental railroad journey in the 'sixties. The train is overloaded with immigrants; the pioneer village with its log cabins and school house is typical. 344

This map shows the United States, including Oregon and Texas, in 1847. The upper dark line stretched across the continent indicates the contemplated Oregon Railroad. 345

PAGE

Tunnels of this sort obviate sharp curves on the modern railroads. Watchmen patrol every foot of the tunnel while the light signal indicates a clear way ahead. 400

From crude and ugly beginnings there has been a steady tendency toward simplicity, efficiency and beauty in the development of the modern railroad coach. This progress is sufficiently evident in these three pictures. 401

The "Grand Central Depot" in New York, completed in 1871, was one of the spectacular results of the enormous rail expansion in the decade succeeding the Civil War. It enabled trains to come quickly to the heart of the city. 436

Through the modern New York Central Terminal, which has supplanted the ugly structure erected in the 'seventies, more people pass daily than inhabited the Colonies during the Revolution. 436

This old caricature from *Puck* pictures Vanderbilt and two of the lesser buccaneers of railroading — C. W. Field and Jay Gould. 437

These four men were among the most prominent figures in American railroading during a half century. In the upper left-hand corner is General Dodge, a pioneer of the West celebrated for his wide knowledge of the Indian problem. To his right is a photograph of James J. Hill of the Great Northern in his late years. At the lower left is Edward Harriman and, to his right is Jay Cooke who undertook to finance the Northern Pacific. 454

PAGE

This modern locomotive giant rides the rails on sixteen wheels, eight of them drivers. It is as long as a third of an ordinary city block, travels sixty miles an hour, and can haul over one hundred cars for freight. 455

Before the days of electrification, confusion, smoke and noise characterized the old Grand Central Terminal station in New York. 455

During the great " Erie War " Jay Gould's bodyguard encamped for the night in the offices of the company in the Grand Opera House building. 480

Confusion and desperation marked the ten minute stops for refreshments in the days before the introduction of the diner. This amiable exaggeration might have been inspired by any Western railroad station during a stampede for food. 481

Vanderbilt and Daniel Drew were the two great rivals on the Hudson for the early steamboat business. This old print shows one of the Drew steamboats sailing beneath the Palisades. 510

This cartoon indicates how our fathers felt about the railroad kings in the 'seventies. The two contestants for Western stakes are Commodore Vanderbilt and Jim Fiske. 511

PART VI

The Forward March to the West

Chapter XX

How The Civil War Kicked Rail Progress Forward Too Fast For Its Own Good. 1860–1873

RIGHT here take a glance to grasp why Middle West population had jumped so fast in an era of Civil War in the United States and a German-French War in Europe. The colonists from Europe between 1848 and 1856, from Ireland, from Germany, from Scotland, had prospered amazingly in the United States. Indeed, they could hardly help prospering. They had come with thrifty habits, tireless ambitions, keen brains, and almost brute-strong brawn. They had reaped such prices for their labor as would be a rich man's income in Europe. Both the Crimean and the Civil War had filled their pockets. Their land had increased in value from one dollar an acre to fifty. Cities had grown up where they had bought farms. Word of all this went back to Europe by quick, frequent, cheap mails. All could get work — work at wages that seemed fabulous to people earning a few shillings a week as miners, farm laborers, sweat-shop toilers in European hovels, or even fishermen off the sterile rocks of Norway and Sweden and Iceland. Taxes in the United States seemed to be so low they were a joke compared to rents and rates on people living in the sod-thatched hovels of Europe. America now became a golden magnet. To the sons of Erin and Germany still coming in floods were added like human tidal waves from Norway, from Sweden, from Denmark, from Iceland, from

Switzerland — the very best Nordic stock in all Europe, of clean blood and thrift and high ideals; and this was yet increased by the Franco-German War of the seventies. Why toil in countries where taxes and rents and rates ate you up, when there lay across the Atlantic free land, low taxes, no rents and rates? When the Civil War closed in the United States, it was realized that however much or little great European banks had lost in American securities, there lay the land to which the poorest of the poor could go and if he worked — prosper.

First thought or, in legal parlance, "horseback decisions" would be that the Civil War must have crippled and stalled rail progress westward.

The exact opposite was the result. The Civil War kicked rail progress forward too fast for its own good. The Southeast suffered, particularly that border zone between North and South. The Middle West garnered enormous revenues from carrying war supplies. Farm produce sold at prices that turned steady heads dizzy. Middle West population jumped to eight millions in ten years and rails to a total of ten thousand miles. By the time the crash of 1873 came, the Middle West had fifteen thousand miles of steel. The great population filled freight cars going east and it filled empties going west; for when the farmer sells at a profit he can buy; and full cars going both east and west solve the hardest bit of arithmetic for rail finances. Rails can reduce rates and make up in aggregates. After the Civil War, they could sell their land grants to the disbanded soldiers. The soldiers,

who bought these land grant areas at from two and half to ten dollars, could again sell their output to the ever-increasing colonists and to the army men now detailed to duty in the Indian Wars. You will find few of the rails through the Middle West, from the high price era of the Crimean War to the higher priced era of the Civil War, which did not pay from six to ten per cent dividends and meet all charges on bonds. There isn't a doubt, either, that many a debtor paid gold debts in low-priced greenbacks. If he had had the wisdom not to go in debt in an orgy of frenzied speculation that ranged from crazy land values to crazier rail charters, he would have been opulent at the end of the Civil War.

The rail charters came from state governments pretty nearly as fast as printing presses could work. These began to be known as " wildcat roads." They were the first great evil resulting from land grants; and the stench of that evil still survives. Few of these roads were ever built, and those built were more for the purpose of getting the land grants than for possible revenues that could come from traffic for many years. They had first to get the settlers along their lines. They had next to wait for those settlers to become shippers and buyers; and in the interval, the Civil War ended. The high prices slumped. Sales of lands stopped. Interest could not be paid on bonds, and these lines automatically fell in the hands of the stronger lines, who bought them on the open market, or bought their low-priced bonds and foreclosed the mortgages. They help to explain the swift advance of

many a Chicago rail to the Mississippi and beyond the Missouri.

But this is not the entire story of the reaction from the Civil War. With the country torn by advancing and retreating armies, the Middle West could no longer depend on the East for equipment; so in this era also sprang up car shops, foundries, rolling mills for iron and steel rails — really the birth of big manufacturing centers in the Middle West.

In almost as great a blaze of triumph as the Erie had reached the Lakes, the Baltimore and Ohio had extended to St. Louis by 1857. More than fifteen hundred guests were on the excursion train. Flagmen patrolled every mile from end to end of the new steel rail. Orators orated from stumps as the train flew past on wings of steam. Pine torches flared their joy from lonely settlers' shanties and cabins as the red glow of the engine's headlight cut the darkness in the flash of a fiery sword and swept on with a roar into the night. Hearts beat fast as the palpitating chug of the iron monster. Bands serenaded at every station; and how the guests ever survived the banquets of welcome at St. Louis was a miracle of gastronomic impossibilities. There were ten toasts between courses, and five toasts afterwards, and speeches with each toast, and two extra speeches at the end; and when the weary travelers got back to Baltimore, the St. Louis banquet was repeated. The Baltimore and Ohio suffered much in that twilight zone between North and South; but it was in the defeated South that rails were crippled for almost twenty years.

Yet the heroism of steam's progress westward never flagged once in its worst era across the South. One adventure has been told so often it is almost as famous as Washington's cherry tree. Thousands of rail hands had enlisted in both North and South. The engine *General,* one morning in April of 1862, was hauling a passenger train on what is now the Nashville, Chattanooga and St. Louis, from Atlanta to Chattanooga. At Marietta some passengers in plain clothes had boarded the train for local points. They said they were escaped prisoners from the Yankees trying to get back to the Confederates. They were really disguised Federals led by a Kentucky man named Andrews. At Big Sandy, when the train stopped for breakfast, and the crews were off, somebody saw a band of strangers hop on the engine, uncouple from the passenger cars to rear and set off at terrific pace with the locomotive and three box cars. A Captain Fuller, an engineer, and a fireman from the shops got a hand car — one of the old fashioned " jiggers " — and set off in pursuit just as the flying Federals in disguise turned a sharp bend. The fleeing Federals threw crowbars, cordwood, anything they had across the track. The men on the hand car stopped, cleared the rails and set off again. Two more men with guns joined the hand car at Ackworth, and the soldiers of the *General* took advantage of the pause to pry loose two rails on a curve, which promptly threw the hand car with its crew into the ditch. At the next point a battered engine named *Yonah* was hitched to a coal car and with a band of

Confederates set off again at full speed, almost bursting its old iron shirt off as well as its wheezy boiler, to catch the Federals. The poor old thing made sixty miles an hour, when it seems to have expired from lack of breath and was exchanged for the *Texas* with one car; but again the pause had given the *General's* crews time to drop crossties as it bounded on, and while its pursuers cleared the crossties, the *General's* men ripped up two hundred feet of rails — then on it roared. Fuller and his shop foreman dashed ahead on foot and were lucky enough to meet a fast freight of twenty cars, which had just escaped collision with the runaway by being on a siding. He flagged them, jumped on, ordered the freight back at full speed to the siding, dumped the cars and by quickly throwing the switch had the engine back on the main track hind end foremost, pursuing so fast the cars on the siding and the engine ran abreast nine hundred feet; but the captain now had as crew only the shop man, the engineer, the fireman, and a wood man to feed the blazing furnace box. The next ten miles were made at almost a mile a minute, but the *General's* thunderous rush ahead had forewarned all little hamlets something was amiss and at the next point where the *Texas* slowed down, a gaping telegraph boy was grasped by the hand and hoisted on board. The exploit didn't do much good; for the Yankees had cut the wires. Fuller's aim now was to reach the next point before the Yankees could cut wires through to Chattanooga. The two crews could now see each other literally jumping along the rails. But the *General* hauled three freight cars. Its crew now uncoupled

one to telescope the *Texas*. The *Texas* slowed down and coupled it on; and away she went. The *General* let loose another freight car. The *Texas* repeated its tactics. Next, the *Texas* dumped its two freight cars on a siding and bounded back to the main track with only the engine at fifty miles an hour. Again the *General* had taken advantage of the pause to wedge a rail across the tracks. How the *Texas* jumped that, the crew never knew. Its speed probably bounced it. By this time, pursuer and pursued were hurdle jumping into Dalton, where the telegraph boy was dumped off to wire Chattanooga to catch the *General*. The wire got through, but not the *General*. It was out of breath or out of water. Almost over the Georgia state line into Tennessee, the raiders jumped from the *General* and scattered for hiding in the woods. They were captured in a few days. All but two were Ohio men. Eight were executed in Atlanta as spies, six were exchanged with the North for prisoners, and eight escaped from prison. War is a cruel and relentless master. Few men live to-day who do not acknowledge both crews were heroes unparalleled in the Civil War. Both engines survived the exploit and the *General* is kept as a historic monument in Chattanooga. Many such exploits can be found in the memoirs of officers on both sides in the Civil War. In the South, bridges were burned, culverts blasted away, tracks ripped up, rails humped by heat or crowbars so they would throw trains of supplies and troops. Blacksmiths and carpenters became as essential to troop transports as officers.

The whole period is a horror memory in the annals

of Southern rails — a horror memory with the gold thread of heroism; but it should do much to soften our snap judgments on bonds repudiated by the devastated South after the war. Out of a great evil came a great good. It was now apparent that if North and South, East and West, were to be bound in union, Atlantic and Pacific must be linked in unbreakable " hoops of steel " — in transcontinental railroads.

Hitherto, voices calling for transcontinental railroads had been lone cries in a wilderness of amused indifference; but when both sides in the Civil War retired with hardly a family untouched by death, wounds, dispersion of relatives, destruction of fortune, the prevention of such a war ever again menacing the nation's existence came home alike to voter and financier. But, could such lines pay? They could not. Look up the old atlases published late as the eighties. Everything between the Mississippi and the Rockies was mapped " the Great American Desert " — North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Nevada, Arizona — all " the Great American Desert," the American Sahara. Do you realize that was not fifty years ago? Thirteen of the states richest in lumber, wheat, gold, silver, coal, tabulated as arid desert lands! Give the rails land grants in empires if they wanted them! What help would lands be? Again, as a record of fact — don't forget it, presently it is going to disturb your theories — even with empires of land, not a financier in the world could be wheedled, lured, coaxed to risk putting a

cent in transcontinental rails. Where would they end? Nowhere. What freight would they get except buffalo bones, hides, supplies for a few declining fur traders, a long, utterly unproductive haul over thousands of miles? Who were the settlers for desert lands except outlaws? What could such rails do which could not be better done by the Nicaragua route, or round the Horn in fast ships? Perfectly sound reasoning as to theory — sound reasoning proved by the crashes of 1873 and 1893; but utterly unsound reasoning as to fact, as will be found presently in the greater profits from long hauls than short hauls, and the stability of the transcontinentals in recent times. The reasoning was sound, but it did not pan out because those lands were not desert lands. The pioneer as usual was the pathfinder. Out of this obstinate, obdurate, ignorant attitude came the decision that really put national aid behind the first transcontinentals, and almost military armies in the field as their builders; and in no other way could they have been built at that time. In no other way have they been built either in Canada or the United States. With data of later development, you can argue your head off on that point; but without the transcontinental across "the Desert," that "Desert" could have been neither settled nor inhabited for a single year except by hunters, herders, and adventurers, who had really played with it from Cook's discoveries in the 1760's and La Verendrye's in the same century. First of all, in much of the desert in the North — and in much of the South on the high lands cold in winter as the

North — people could not live without fuel, could not live without houses, could not build houses without lumber, could not get lumber without rails, could not sell what they raised without rails to carry it out to market. Only four of the rivers — the Mississippi, the Missouri, the Yellowstone, the Columbia, — and these only in sections, could be called navigable. Settlement would have had to be confined in narrow strips along their banks. If it would not have been so confined, it would have gone ahead long ago. California had been known from Drake's wild adventures in the late 1500's. The Upper Mississippi and the Upper Missouri had been known since Radisson's day in the late 1600's, and La Verendrye's in the 1700's. Oregon had been known from Gray's discovery in 1792 and Lewis and Clark's explorations in 1803 to 1806. Yet apart from Oregon and California here, in the eighties, was still the Great American Desert. Wilkes' navy report was out in the forties proving this was no desert. Frémont's report was out presently proving the same. Yet no rail had gone ahead, no, not even in the gold rush of the exciting forties.

I don't know where poor Asa Whitney got what we would call the transcontinental mania — probably from the railroad atmosphere of Boston and New York, which had prospered amazingly from backing Middle Western rails; but his was the first voice to whom we can trace the call for steam to span from the Lakes to the Pacific. When the idea began to obsess him, he was a prosperous man. He was reduced

to the poverty of peddling milk for a living in Washington before he got Congress or finance to heed his call. Where should we rank such men — as cranks or prophets? I don't know. I only know Asa Whitney never got his dues in this life. I can only ascribe his place to one of those curious tools in Destiny's hand preparing the way for what was to follow and falling a martyr to his own idea. You will find many other martyrs in the same crusade, one whom the whole Southwest jeered at as a certain brand of fool; two others who went to their graves broken-hearted and deluged in infamy. You ride in the former crank's idea in the palace cars of the Santa Fé. You ride in the idea of the other two cranks in the Union Pacific's pullmans; and few of the millions who traverse both roads know as much as the names. They know the names of the Senators who opposed them. They know the names of European diplomats and army heroes, who deluged the world in blood; but they do not know the names of the men who built up their own land. Such a jade is Fortune! By such chances, as Carlyle would say, do men live in history.

Whitney was a New York merchant who had become rich in China trade. He had become as great an enthusiast on the Far West, as Forbes was of the Middle West. By lecturing and writing and making a general nuisance of himself, he had got a plan for a road from the Lakes to the Pacific before Congress in a memorial. This was about 1845. He did not ask one dollar's aid. He offered to make surveys and lay

ten miles at his own expense as guaranty of good faith. Then he asked for five miles along the road to reimburse his expense, and he would go ahead step by step ten miles at a time till he had crossed two thousand miles, when, if colonists followed the line, he would pay the government sixteen cents an acre, leaving Congress to fix rates forever. "I know," his petition adds pathetically, "someone's whole life must be sacrificed . . . what I propose to do is not for gain, but for the good of the whole country." His memorials were backed by all New England and much of the Middle West, but were received with good-natured indifference by Congress; first, because land grants had not yet become a fact and, second, because no one believed the desert lands were worth sixteen cents an acre.

Whitney suffered the fate of all men who are born before the time is ripe. He was crucified, not on a cross, but in poverty. The Congressional committees patted him on the back and said "fine"; then added under their breath "run away and don't bother us." Nevertheless, he did jab, stab, bayonet the hide of Congressional indifference into action. Douglas, Chase, Calhoun, did in the fifties provide funds for surveys of transcontinental routes. Whitney even got his plan into the party platform for 1856. I think, really, we should ascribe to Whitney rather than to Douglas the fatherhood of the land grant idea. Then the Civil War came along and, except for the surveys, the Whitney idea collapsed; and when it revived during the Civil War, there was the usual scrap be-

tween North, South, Middle West as to which section should have the first transcontinental; and when the middle line was chosen because it was best known as the Oregon and California trail of overlanders with the most feasible grades, though land grants were added to the first charter in areas that were empires, not a financier would touch the project with tongs. It simply couldn't pay. That was final. Cash boxes were clamped down and the lids locked.

But with the Civil War came a larger vision. Congress knew now that East and West had to be bound together. Desert or no desert, there must be no twilight zone left unbound in the great family of states. Congress amended its first idea for the Union Pacific Railroad which, in 1862, Lincoln had approved with aid of sixty-one millions in United States bonds at six per cent to run for thirty years, to be issued as work progressed, the bonds, of course, to be repaid. Keep that in mind. It explains the crash of 1893. The aid of United States bonds was approved for the simple reason that even Lincoln couldn't see settlers enough going in fast enough to support the road. The bonds were to be issued: sixteen thousand dollars for the easy level grades, thirty-two thousand for the foothills, forty-eight thousand for the Rockies; and not a cent on the line would be advanced before army engineers had pronounced grade and trackbed and curves A1. Still it didn't go ahead. What was the matter? Capital was the matter. Capital wouldn't go in the road unless the land grant was doubled and the government accepted second mortgages instead of

first, so the investor would have at least a gambler's chance of profit.

When the Union Pacific was openly discussed in the House, the member for New Hampshire said: "If the good God were to make that road for you right through, you could not form a company that would run it without failure. I would build it as a political necessity to bind the country together. Here is the money to build it." The member from Vermont said: "There is not a capitalist who will invest a dollar in it." A Massachusetts man stated: "The man is not born in this country who will ever see this nation get back this money. I would sink one hundred millions to build this road." Said the Indiana solon: "It is not expected that a cent will ever be repaid. This road is to be the highway of the nation. This will be a bonus as it ought to be."

First of all, did the original one hundred fifty subscribers of capital put any real money in?

Second, how much did the Union Pacific really receive in sales for its land, and what was it worth?

Fortunately, there are accurate records in answer to each of these questions.

When stock books were opened, thirty-one shares of one thousand dollars were subscribed, but only seventeen thousand was paid down.

Hah! — yell one side of the old controversy — didn't we tell you these scamps put in only a few dollars and then played loaded dice for millions! Hah-hah!

Wait a bit!

They paid down only a little over half of what they had promised because they hadn't any more money — not a dime. Also, when you begin to chase a rainbow and run short on cash, you are apt to sit down and figure. It's a way rainbows have when they begin fading to dull leaden clouds with storm signals out. The Illinois Central had cost thirty-three thousand dollars a mile. A little line up the Sacramento had cost thirty-four thousand. How in the world was the Union Pacific to get its lower level lines down at sixteen thousand dollars a mile and its foothills at thirty-two thousand? Thomas Durant of New York took a whirl at the stalled finance. He had many banking friends. He got 2,177 more shares subscribed at one thousand dollars each, and among the newcomers were August Belmont, and Scranton of the Erie. Ground was broken at Omaha in December, 1863, but all the first installments of three hundred thousand dollars were exhausted in surveys; and again the subscribers had a bad fright. They owed three hundred thousand dollars more. Should they send good money after bad? Durant had to assume personal responsibility on his own paper up to two millions before the company could get one cent from government bonds. Came an offer from one Hoxie to build one hundred miles at fifty thousand dollars a mile. His offer was accepted for 247 miles, to cost twelve millions. Others in the group did not like that contract. Between thirty-two thousand dollars a mile and fifty thousand dollars a mile was a wide spread for profit to the contractors. Of course, there was.

What contractor was going ahead to finance himself on a gamble without accounts padded good and plenty to cover his risks and his loans? For he had to pass every mile of track and grade under the eye of government army inspectors before the Union Pacific could draw a cent of aid in United States bonds. The contractor was to subscribe for a half million of Union Pacific stock. Was the little Ethiopian in the woodpile right there? The shareholders were liable to the entire extent of their fortunes to pay Hoxie. Was Hoxie in collusion with some to divide his profits? Fear of bad faith ran down the spine of many shareholders and they refused point-blank to come forward with their second installment. It looked as if, for all the aid promised, the Union Pacific had come to a second collapse.

Now comes the third factor in the Union Pacific's lame start for its race to the Western Sea. Oakes and Oliver Ames were two highly successful shovel manufacturers of Massachusetts. Oakes, as a Congressman on the Railroad Committee, had become deeply interested in the Union Pacific.

They formed a construction company under a Pennsylvania charter. That company was the famous, or infamous, Crédit Mobilier. Its excuse for existence was that no contractor would go ahead and earn the government bonds unless every shareholder would pledge his private fortune as security; and twice now, the shareholders had backed away from such terms and left the construction contractors in the lurch. The Crédit Mobilier moved its main offices up to

Atlanta, Georgia, had one of the earliest and best railroad systems in the South before the Civil War. This old print shows how it appeared on General Sherman's entrance in 1864.

The Civil War wreaked havoc on the railroads of the South. This old photograph shows a southern roundhouse at the close of the war.

New York next to those of the Union Pacific. The Hoxie contract and all its debts were transferred over to the Crédit Mobilier. To the Crédit Mobilier, the Union Pacific now transferred over two millions cash subscribed by the reassured shareholders. The whole arrangement was fraught with danger. The Union Pacific stood liable to the United States to go ahead and in thirty years pay the United States bonds; but the Crédit Mobilier took over the cash, sold the bonds, and used the cash. Anyway, two hundred seventy miles of track were laid and passed army inspection and the cash came across from the United States Treasury. The Ames brothers had become large holders in Crédit Mobilier stock. They were also on the Union Pacific board. Oakes Ames, who had vowed "if it took his last shovel," he would see the Union Pacific through, began to dominate affairs ahead of Durant. He believed the road would pay. Durant didn't. He believed the only profits could come from the Crédit Mobilier construction company.

Each man had pledged in cash every dime he owned. Naturally, working from different aims and pulling in different directions, their friendship broke and suspicions began to be whispered. Durant wanted Hoxie back to continue from the three hundred miles west of Omaha where the Crédit Mobilier had pushed. In 1864, the President of the United States was invoked and a commission was appointed, and the commissioners voted against Hoxie and Durant. It does not need telling from this time on — the fat was in the fire.

The defeated Hoxie-Durant party charged undue influence had persuaded the Congressional committee and the government commission. The Crédit Mobilier faction charged the Durant crowd were pushing through the road as a stock gamble on Wall Street for a line that they did not believe could pay, and that every time the stock went up they were selling as fast as they could on the New York market. As the government contract forbade the selling of the stock by the company under par of 100, and the stock was sold by the Hoxie-Durant crowd at 30 to 35, it was a case of the pot calling the kettle black.

As a record of fact, this part of the road was built by the Crédit Mobilier for twenty-seven thousand dollars a mile against the Hoxie contract, a saving of twenty-two thousand five hundred dollars a mile to the Union Pacific. Equally, as a record of fact, Crédit Mobilier stock was found in the names of Congressmen and Senators, for which no payment could be found on the books, and half a million dollars was charged to "suspense" account. Building had been suspended during hearings, but there is a sinister suspicion that suspense of another kind was meant.

But the Crédit Mobilier had to get cash to go ahead and to get that cash kept increasing its capital right up to $3,750,000 by 1867. To lure shareholders, the Crédit Mobilier gave one thousand dollars Crédit Mobilier stock for one thousand dollars cash and in addition gave a one thousand dollar bond on the Union Pacific. As the bonds were selling for exactly 85, the Crédit Mobilier stock was going across in the

shuffle at exactly fifteen per cent of the cash paid. By wild advertising — we would call it "wildcatting" to-day — subscriptions to the Crédit Mobilier poured in; for the investors really got a good United States guaranteed Union Pacific thousand-dollar bond and an equally good thousand-dollar Crédit Mobilier share.

Though the device kept building and grading and track laying going ahead fast as eight miles a day in places, no such financial burden on earth, not even a gold mine, could be carried by obligating two thousand dollars of debts for one thousand dollars of hard cash. The crash had to come. Would it come on the Union Pacific or the Crédit Mobilier?

Details of other contracts need not be given. They were similar; but the Union Pacific was now in the Rockies where track work did cost fifty thousand dollars a mile and, spread or no spread, the profits to the construction company, which was the Crédit Mobilier, must have vanished as the rainbow.

From the Rockies to the center of Utah, the Union Pacific had to build like mad; for the Central Pacific was coming east from San Francisco and each road was building in a friendly but frenzied race against the other to win the land grants and bond guaranties. The Crédit Mobilier had to get that aid, or go "stone broke." "The contracts were the wildest ever made by a civilized man," said Vanderbilt's son-in-law, who had bought some Union Pacific stock for the New York Central. But the trouble was that in 1867 there were not very many sane heads in the rail gamble. At

this stage, some builders telegraphed Ames they were out of money — should they go ahead? "Go ahead, if it takes my last shovel," wired Ames; and it went ahead at four, five, eight miles a day, costing for its

Joining of the Central and Union Pacific.
(The continent spanned. Scene at Promontory Point, Utah, May 10, 1869.)

On this historic occasion, after breaking a champagne bottle, the engines bumped noses and bowed; then wires sped the news east and west where church bells were rung in triumph

speed expenses alone an excess of fifteen hundred dollars a mile.

The road was completed on May 10, 1869; but money rates for loans to the Union Pacific had gone up to nineteen per cent. One government examiner flatly demanded twenty-five thousand dollars before

he would pass the road, "whether it met the requirements of the law or not"; "blood-money," "blackmail." How did the road stand on its completion? It owed, on first mortgage bonds and second mortgage United States bonds, $74,204,512. It owed to its stockholders $36,762,300. The stock was valued at 30, though at times low as 9.

The government got what it had paid for — a highway to the Pacific on which it held bonds due in 1893. As far as I can judge, the shareholders got a railroad of which their stock could not be sold above 30 and often went at 9; and the Crédit Mobilier got an Indian skullcracker's thud on its head, which smashed it; so the first question is answered: *What did the original one hundred fifty subscribers get out of it? They got absolute ruin.* Did the speculators in Crédit Mobilier shares make money? That is another question; and they undoubtedly did. When stocks fell to 7 and then jumped for no apparent reason to 35, somebody made money; but that was not the sin of the Union Pacific Railroad. It was then, and is yet, the sin of the vultures in the rail world, the sin of a little inside ring rigging the market and playing with loaded dice. It is the sin against which Professor Ripley's famous article came out. How such inside rings are to be kept from bedeviling sound ventures is one of the unsolved puzzles in the investment field on an open market. It has been done over and over again; and is being done over and over to this day. Posted names of actual sellers and buyers would be one remedy. Who is going to sell at 7, if the value is 35?

Who is going to buy at 35, if the real value is only 7? Daylight is one of the things crooked deals can't stand; and yet good things going cheap have been run up to such crazy values by a frenzied public that there is peril in that remedy, too. It is evident in every land boom, where the buying and selling is open as day. It has set back good land values twenty years, more times than can be counted.

Some curious byplays occurred when the crash came. Our old friend Jim Fisk made a dash at it in 1869, when Union Pacific stock was down to 9; but Fisk's career was cut short by that assassin's bullet in 1872. Vanderbilt's son-in-law, Clark, had begun buying at 30, but death also removed him, when Jay Gould gave orders to buy all Union Pacific stock up to 35. He had barely got control when, on Clark's death, the stock dropped to 14 and Jay Gould found himself in possession of the Vanderbilts' bad bargain. Gould had the Union Pacific on a dividend basis in three years, but the dividends as afterwards proved did not come from the Union Pacific revenues. They came from two Kansas lines, which the Union Pacific had taken over. Gould and his friends had control to 1878, but he also had his eye on those government bonds due in 1893, and he began to see that increase of settlements in Kansas would yield quicker stabler returns than a Pacific road. He sold out gradually and concentrated on Kansas and Missouri roads, which is another page of the versatile man's astonishing life; but when he stepped out, Charles Francis Adams, his old opponent on the Erie, became the

Union Pacific president and saw at once that dividends were a ruinous policy on a road which would in a few years have to meet a tremendous debt to the United States government.

The crash of the Crédit Mobilier long preceded the crash of 1893, which threw the Union Pacific in the hands of receivers. A presidential campaign was coming in 1872. The Crédit Mobilier offered a shining and very vulnerable target for charges that would spatter opponents. A House Committee of five was appointed " to investigate whether any member had been bribed by Oakes Ames." The thing dragged through two years and raised a stench that should have satisfied any politician. Oakes Ames had made frightfully careless and frightfully rash quick decisions to get his aid from Congress. He frankly acknowledged he had promised to carry Crédit Mobilier stock for Congressmen, who forgot to pay for it; and pending their forgetfulness, charged it to " suspense " account. He said he had to, or the building would have stopped. Then when Vanderbilt and Fisk and Gould began to come into the game and Union Pacific stock danced up and down from 35 to 14 and 9, those gentlemen began to call on Ames for their stock. As to pay, they averred they had paid in getting his inspections and bonds through; and Ames with every cent of his fortune pledged was a wasp — may have been an angry wasp — nicely held between the blades of the Congressmen's sharp scissors. If Ames squealed, they could block his road. Now that his road was built and he did squeal, they

squeezed him between the blades of their scissors. As the two investigating committees went on and on, the stock fell in value and the Fisk-Vanderbilt-Gould crowd dropped it like a hot coal, and Ames found himself expelled from the House and a brother member — James Brooks of New York, who also seems to have squealed — was given similar punishment. Both went to their graves within a year, heart-broken and disgraced, dazed and ruined. The country had demanded scapegoats and got them in Brooks and Ames; but were they the sinners or the greedy hands out for a bribe to do what the United States government had promised? The country was right in demanding punishment for bribe giving; but if it had gone farther and demanded penitentiary sentences for the bribe takers, it would have accomplished more for the cleansing of public life. As planned in the first place, the Crédit Mobilier was in no wise different from the Georgia Railroad Banks of an early day, which tided the rails past ruin; but as worked out by the stock jugglers and politicians, it resulted as the Erie had resulted — in ruin. Again it proves, as the Erie proved, that the wider rails and politics are divorced, the better for both.

To add woes to woes, the Crédit Mobilier was now suing the Union Pacific for payments still due on its work. At this stage, Jay Gould came in and struck back at the Crédit Mobilier with the counterclaim that its whole contract was illegal and that it owed its profits as a refund to the Union Pacific. The Crédit Mobilier could not stand an investigation

of its accounts, and passed off the Union Pacific map.

Then, who made the money? As far as I can judge not a living soul of the Union Pacific's sincere backers. The shareholders of the Union Pacific lost all. The shareholders who had retained the Crédit Mobilier stock lost all. The bribe givers lost all. What about the tricky jugglers with stocks on Wall Street? I can't just see that Fisk, Vanderbilt, and Jay Gould made money when stocks bought up to 35 went down to 7; but the government got what it had paid for — a national highway from end to end of the country; and though the road was sold after five years of a receivership for fifty-seven million dollars — when the Morgan banking houses would not touch it — its assets stand to-day at over a billion. The last of United States government bonds were fully paid and so was the interest. Such are the astonishing ups and downs in the railroad financial world.

What did the Union Pacific sell its land for? One writer says the lands netted, all in all, twenty-three million dollars but that was small compensation for a loss of one hundred and ten millions on stock and bonds. The rail record of its land sales stand from $4.47 in 1875 to $2.98 in 1876, $4.93 in 1881, $1.52 in 1884, $1.22 in 1886, $3.91 in 1888, $2.88 in 1894; or to a total net of over thirteen millions from Union Pacific lands. Lands to which it fell heir on branch lines chiefly through Kansas make up the balance to twenty-three millions. These Kansas lands sold up to high as $7.63 and down to lowest of $4.03.

Who could see that in a brief twenty-five years those very lands, from one hundred and sixty acres of oil, would yield as much as the entire proceeds on all lands to the Union Pacific?

Again, such are the astonishing ups and downs in the rail financial world; but the history of the Union Pacific's hectic financial career is pallid as the moon to the sun compared to the work of the builders out on the field.

Chapter XXI

The Man On The Job For The Union Pacific. 1860–1873

WHEN Asa Whitney stabbed Congressional indifference into sending out exploration parties in the fifties to survey where a transcontinental should go through to the Pacific, the path chosen was a route first made by the buffalo, next followed by the Indian, then traversed by white trader and colonist in the great rush westward of Oregon pioneers, California gold hunters, and Mormon colonists.

It was up the Platte Valley. A short Iowa line backed by Durant had employed a civil engineer — Peter Dey. From Norwich University up in Vermont had come a young cadet age twenty who drifted West in 1852 and worked under Dey as a rod man. It was a bitterly cold winter and the young rod man proved his mettle. He was no sissy, and stuck. It was not long before this boy was placed in charge of all the field work for Peter Dey. The boy's name was Grenville Dodge. In the fall of 1853, he had poled across the Missouri in flat boats. On the bluff where long ago the great Omaha chief had been buried astride his horse, Indians were still roaming and not more friendly than in Lewis and Clark's day. Dodge rode ahead twenty-five miles, telling the other boys to follow up with supplies, and had hobbled his horse and lain down for a rest with saddle for pillow and rifle at hand, when he was wakened from his nap by the snort of his horse. He looked up to see an Indian

pulling on the horse's bridle with might and main in one direction while the horse pulled back terrified in the other. Dodge says he was terribly scared himself, grabbed his rifle and started after the Indian " hollering at the top of my voice." The Indian evidently shared the trio of fright; for he let go and " skedaddled." Such was the introduction to the future life work as Indian fighter and rail builder of Major-General Dodge. It is rather comical to add that twelve years later that very Indian was one of Dodge's most valuable enlisted men.

Dodge also " skedaddled " back to his survey boys, who were surrounded by a rabble beggar band of Omahas and in fright were cooking all their provisions to placate the surly thieves. Dodge knew only one Indian word — " Puckechee " — " Get out " — but he yelled it — and they " got out." It was his first Indian command.

Durant, Dodge, and Peter Dey continued their surveys up the Platte from Council Bluffs through to Utah and the California and Oregon line. We know now why Durant and his friends were paying out of their pockets for all this survey work. They foresaw a transcontinental coming and were getting ready. Once on this survey work, when resting on the piazza of the little tavern " Pacific House " in Council Bluffs, young Dodge was joined by a tall angular frontier lawyer for somebody or other, who pumped him dry on facts concerning the Far West. The frontier lawyer was " Abe " Lincoln and it wasn't till afterwards, young Dodge realized that Abe had

" shelled my woods " and got away with a lot of information that ought to have gone only to his employers.

The Civil War came along, sweeping Dodge into its maelstrom, and in the midst of the war came up the building of the Union Pacific advocated very strongly from the first by Lincoln. Peter Dey was chosen to make the first reconnaissance for the line. Young Dodge was down in Mississippi as an officer guarding contraband camps, when he got an order from Grant to report at once to President Lincoln in Washington. Much alarmed lest his war record had been at fault, Dodge hurried to Washington, where he found that the President had called him to discuss which town should be the eastern terminus of the new Union Pacific. On advice of Dodge, Lincoln settled the point at Omaha, just opposite the place where the frontier lawyer had picked all the information out of the young surveyor's brain four years previous.

He again questioned Dodge on the proposed line to meet another line coming from San Francisco. Could the line be built? Yes, but it would be terribly difficult as a private venture. Lincoln's answer was, the government could give it all aid, but had enough on its hands in the Civil War without undertaking a railroad; so on the termination of the Civil War, the Green Mountain boy found himself drafted out of one army into another to build a railroad. Dodge went with the rank of major-general, as chief engineer. There was never a wiser choice made in railroad con-

struction. In the country through which the Union Pacific was to run, there were neither laws nor courts. Railroad camps would spring up mushroom-like with ten thousand tents, beset by every type of scamp that war and rail building drew — whisky bootlegger, gambler, painted lady, outlaw, braggart, bully. The construction man had to be judge and jury and executioner. Graders, trackmen, tie men, axe men, teamsters, herders, civil engineers, gangs, lived in what were military camps and proceeded in their work with almost military precision. Many had been former soldiers. All were drilled and sent to work with arms stacked against Indian attack, for the Civil War had shaken the Indian's faith in white man power and these rail gangs crossing the red man's hunting ground roused raiders from the Sioux of the North to the Utes of the South.

Parties of workmen went out in details of eighteen to twenty-two men under a boss. The boss was usually a former army boy — lieutenant, captain, sergeant. Advance reconnaissance gangs for the grading were expected to live as they hunted; but for the main gangs, numbering on the different grading sections often as many as twenty-five thousand men, provisions were shipped in from the Ohio, up the Mississippi, even across the Lakes. For farmers now suffering from the slump after the Civil War, this teaming and sale of provisions proved a bonanza exceeding the lure of California mines. Sometimes there were ten thousand teams on the trail and as many drivers. West of the Missouri, timber had to be hauled in by teams and construction trains for five hundred miles.

Work began at first streak of dawn and lasted to last blink of twilight; for each road — the Union racing west, the Central Pacific racing east — wanted to earn the greater share of land grant and cash aid through United States bonds. The surveyors could hardly keep more than twelve miles ahead of the builders. Have you ever watched a gang of repair men on city streets or country rails, when the boss's back was turned? One leans listlessly and rests. Another dreams in space. One proves the prize talker. While the drones pause, the workers hum. In Dodge's gangs, all hummed and they hummed in rank — so many men dumping the ties, so many leveling the grade, so many receiving the ties on spiked picks, so many getting the rails laid, so many with mallets to drive the spikes fixing the rails, and all with the automatic precision of an anvil chorus. Only hardened army men, and young at that, could have kept the pace. In twelve months, Dodge had 587 miles west of the Missouri located and built with equipped trains running; and he had transported every pound of supplies at least eight hundred miles and never missed a day's work from lack of any equipment. It was like the swift forward march of an army in close rank. An onlooker describes the gang work in these woods:

"We, pundits of the far East, stood upon that embankment, only about a thousand miles this side of sunset, and backed westward before that hurrying corps of sturdy operators with a mingled feeling of amusement, curiosity and profound respect. On they

came. A light car drawn by a single horse, gallops up to the front with its load of rails. Two men seize the end of a rail and start forward, the rest of the gang taking hold by twos, until it is clear of the car. They come forward at a run. At the word of command the rail is dropped in its place, right side up with care, while the same process goes on at the other side of the car. Less than thirty seconds to a rail for each gang, and so four rails go down to the minute. Quick work, you say, but the fellows on the Union Pacific are tremendously in earnest. The moment the car is empty it is tipped over on the side of the track to let the next loaded car pass it, and then it is tipped back again; and it is a sight to see it go flying back for another load propelled by a horse at full gallop at the end of 60 or 80 feet of rope, ridden by a young Jehu, who drives furiously. Close behind the first gang come the gaugers, spikers, and bolters, and a lively time they make of it. It is a grand " anvil chorus " that those sturdy sledges are playing across the plains. It is in a triple time, three strokes to the spike. There are 10 spikes to a rail, 400 rails to a mile, 1,800 miles to San Francisco — 21,000,000 times are those sledges to be swung: 21,000,000 times are they to come down with their sharp punctuation before the great work of modern America is complete."

Indian raids never ceased. Once when the graders were right at the end of the track and had left their arms stacked behind in a gravel cut, a bunch of young bucks sprang from the very ground, cut loose the teams and stampeded the horses. They got away with them, too, though they didn't capture the graders' firearms. For just one minute those graders sprinted

for Dodge's caboose car, which was in the thick of it; and Dodge had loaded firearms ready. Dodge describes his own car as "a traveling arsenal."

Only two hundred miles west of the Missouri, an Indian band captured a freight train and its crew. With twenty men, Dodge ran down to the captured freight, deployed his band in a circle — when the captors scampered.

The speed of this construction had never been surpassed till the World War, when some rails from Egypt to Palestine went down as fast and in raids came up as fast.

On another occasion, working west from the North Platte, an engineer and eight of his helpers near what is now Red Desert, heard a yell and found themselves encircled by three hundred dancing, prancing Sioux warriors zigzagging in pantherine approach to avoid bullet. Brown dashed for the top of a small hillock and fought off the raiders from noon to night, when he fell, shot below the belt. He ordered his helpers to escape under cover of darkness and leave him to his fate. The Indians had now captured the surveyors' horses and would likely draw off till morning. The helpers refused to abandon their head surveyor. They made a litter of their carbines and packed the wounded man back fifteen miles through sagebrush to camp, where he died almost at once. Not so different from war heroism, is it?

Another day, a band of reconnaissance men coming from Green River east with teams lost the trail and for nearly a week had been without water except

dew and such damp as could be lapped from drying springs. Men and teams were fevered, fagged, parched, staggering to death from thirst. All were saved.

In the mountains, the Union Pacific received its highest grants from the government, but it was terribly close to the bottom of its cash box; for the government aid came through only as the sections were completed and inspected. It was at this stage, Ames had wired, " Go ahead if it takes my last shovel." At this stage, the Irish laborers were so sceptical of the Union Pacific ever going " through," they demanded and got each day's pay before they would go out to work.

Crossing the Wasatch Mountains to Salt Lake on sledges, the engineering brigades found the poles of the telegraph lines buried in snowdrifts. Forcing the grading through the Wasatch in winter added ten millions to the cost of the Union Pacific. " Spring of 1869, found us with the track at Ogden and by May 1, we had reached Promontory." Chinese, Mexicans, half-breeds, wild fur traders, negroid outlaws — every class on earth had gathered from the wilderness to witness the great event.

Let us quote from Dodge:

" The Central Pacific had made wonderful progress coming east, and we abandoned the work from Promontory to Humboldt Wells, bending all our efforts to meet them at Promontory. Between Ogden and Promontory each company graded a line, running side by side, and in some places one line was right

This Currier and Ives print of 1868 represents a scene of the transcontinental railroad journey in the 'sixties. The train is overloaded with immigrants; the pioneer village with its log cabins and school house is typical.

This map shows the United States, including Oregon and Texas, in 1847. The upper dark line stretched across the continent indicates the contemplated Oregon Railroad.

above the other. The laborers upon the Central Pacific were Chinamen, while ours were Irishmen, and there was much ill-feeling between them. Our Irishmen were in the habit of firing their blasts in the cuts without giving warning to the Chinamen on the Central Pacific working right above them. From this cause several Chinamen were severely hurt. Complaint was made to me by the Central Pacific people, and I endeavored to have the contractors bring all hostilities to a close, but, for some reason or other they failed to do so. One day, the Chinamen, appreciating the situation, put in what they called a " grave " on their work, and when the Irishmen right under them were all at work let go their blast and buried several of our men. This brought about a truce at once. From that time the Irish laborers showed due respect for the Chinamen, and there was no further trouble."

It had been arranged as the Union Pacific and the Central Pacific approached the meeting place at Promontory, that trains from New York and California should be there to celebrate the great event. Rails were placed right up to the meeting place so the engines bound west and the engines bound east could bump noses, or speak in the language of a steam hiss, or a whistle, or a gong, or any other polite way engines have of greeting except in collision. Of course, Durant and his associates were on the Union Pacific train; and of course, Leland Stanford, Collis P. Huntington, Crocker, and other San Francisco men were on the Central Pacific train. Here is the ceremony as described by General Dodge:

" The two trains pulled up facing each other, each crowded with workmen who sought advantageous positions to witness the ceremonies, and literally covered the cars. The officers and invited guests formed on each side of the track, leaving it open to the south. The telegraph lines had been brought to that point, so that in the final spiking as each blow was struck the telegraph recorded it at each connected office from the Atlantic to the Pacific. Prayer was offered, a number of spikes were driven in the two adjoining rails, each one of the prominent persons present taking a hand, but very few hitting the spikes, to the great amusement of the crowd. When the last spike was placed, light taps were given upon it by several officials, and it was finally driven home by the chief engineer of the Union Pacific Railway. The engineers ran up their locomotives until they touched, the engineer upon each engine breaking a bottle of champagne upon the other one, and thus the two roads were welded into one great trunk line from the Atlantic to the Pacific. Spikes of silver and gold were brought specially for the occasion, and later were manufactured into miniature spikes as mementos of the occasion. It was a bright but cold day. After a few speeches we all took refuge in the Central Pacific cars, where wine flowed freely and many speeches were made. Telegrams were sent to President Grant, Vice-President Colfax, and other officials throughout the country. I did not fail to send a message to my old commander, who had been such a helpful factor in the building of the road."

An order had gone over the wires East:

" To everybody: Keep quiet. When the last spike is driven at Promontory Point we will say ' Done.'

Don't break the circuit, but watch for the signals of the blows of the hammer. The spike will soon be driven. The signal will be three dots for the commencement of the blows."

The magnet tapped one-two-three — then paused. "Done." The spike was given its first blow by President Stanford and Vice President Durant followed. Then it was declared that the connection was made, and

"the Atlantic and Pacific joined together, never to be parted. The wires in every direction were hot with congratulatory telegrams. On the evening of May 8, in San Francisco, from the stages of the theaters and other public places, notice was given that the two roads had met and were to be wedded on the morrow. The celebration there began at once and practically lasted through the 10th. The booming of cannons and the ringing of bells were united with other species of noise making of which jubilant humanity finds expression for its feelings on such an occasion. The buildings in the city were gay with flags and bunting. Business was suspended and the longest procession that San Francisco had ever seen attested the enthusiasm of the people. At night the city was brilliant with illuminations. Free railway trains filled Sacramento with an unwonted crowd, and the din of cannon, steam whistles, and bells followed the final message.

"At the eastern terminus in Omaha the firing of a hundred guns on Capitol Hill, more bells and steam whistles, and a grand procession of fire companies, civic societies, citizens, and visiting delegations echoed the sentiments of the Californians. In Chicago, a pro-

cession of 4 miles in length, a lavish display of decoration in the city and on the vessels in the river, and an address by Vice-President Colfax in the evening were the evidence of the city's feeling. In New York, by order of the mayor, a salute of a hundred guns announced the culmination of the great undertaking. In Trinity Church the Te Deum was chanted, prayers were offered, and when the services were over the chimes rang out 'Old Hundred,' the 'Ascension Carol,' and fire stations in Philadelphia produced an unusual concourse of citizens to celebrate the national event. In the other large cities of the country the expressions of public gratification were hardly less hearty and demonstrative."

The event was likewise celebrated in the following lines:

WHAT THE ENGINES SAID

What was it the Engines said,
Pilots touching, — head to head
Facing on the single track,
Half a world behind each back?
This is what the Engines said,
Unreported and unread!

With a prefatory screech,
In a florid Western speech,
Said the Engine from the WEST:
"I am from Sierra's crest;
And, if altitude's a test,
Why, I reckon, it's confessed,
That I've done my level best."

Said the Engine from the EAST:
"They who work best talk the least.

S'pose you whistle down your brakes;
What you've done is not great shakes, —
Pretty fair, — but let our meeting
Be a different kind of greeting.
Let these folks with champagne stuffing,
Not their Engines, do the *puffing*.

" Listen! Where Atlantic beats
Shores of snow and summer heats;
Where the Indian autumn skies
Paint the woods with wampum dyes,
I have chased the flying sun,
Seeing all he looked upon,
Blessing all that he has blest,
Nursing in my iron breast
All his vivifying heat,
All his clouds about my crest;
And before my flying feet
Every shadow must retreat."

Said the Western Engine, " Phew! "
And a long low whistle blew.
" Come now, really that's the oddest
Talk for one so very modest, —
You brag of your East! *You* do?
Why, *I* bring the East to *you!*
All the Orient, all Cathay,
Find through me the shortest way,
And the sun you follow here
Rises in my hemisphere.
Really, — if one must be rude, —
Length, my friend, ain't longitude."

Said the Union, " Don't reflect, or
I'll run over some Director."

Said the Central, " I'm Pacific,
But, when riled, I'm quite terrific.
Yet to-day we shall not quarrel,
Just to show these folks this moral,
How two Engines — in their vision —
Once have met without collision."

That is what the Engines said,
Unreported and unread;
Spoken slightly through the nose,
With a whistle at the close.

Who could guess that in three brief years the railroad then evoking the plaudits of the world would be sitting in the pillory of public opinion; that in another twenty years, it would be sold as a bankrupt on the block for fifty-seven millions; that in still another twenty years, it would rank as one of the soundest, richest revenue producers in the world of rails? And there was not a living soul — not even Lincoln and Dodge — who sponsored it, not a living soul except the Ames brothers, who thought it ever could or would pay. Recall the Congressman's prediction, " I believe that if the good God was to make that road for you, right through, you could not form a company that would run it without failure "; or the other wild statement: " The man is not born in the country who will ever see the nation get back this money."

Chapter XXII

Getting Across The Sierras And The Big Four Of The Central And Southern Pacific. 1860–1900

WE left the engines on the Union Pacific from the east and the Central Pacific from the west bumping noses, blowing off steam jubilation, ringing bells and puffing out: "I thought I could — I thought I could — I thought I could — Now I know I can — I know I can — I know I can."

When the exaltation of triumph had passed at Promontory Point in Utah, the story still remains to be told of how in the world the steam flag of progress had succeeded in climbing to the stars over the tops of the impassable Sierras. You recall that sign in Chicago — "No bottom here." It was worse on many a street of the little cities dotting the Pacific Coast. The silt coming down from mountain streams in the spring thaw left a morass of glue adobe that seemed a bottomless bog. In the era of the gold rush, one street in San Francisco displayed a sign — "Not passable! Not even jackassable!" What this meant in a climb from sea level to the stars of the Sierras, only road engineers could guess on estimates. It meant twice as heavy ballast for roadbed, treble and quadruple filling for the frail trestle bridges that zigzagged across mountain streams, which had to be followed to find a pass through the Sierras, blasting of rocks along the face of mountains whose rocks would not stay put after they were blasted. Then

when the high passes were reached, was construction more difficult in summer or in winter? Summer thaw brought avalanches of snow and mountain torrents in floods. Winter above timber line brought drifts from fifty to one hundred feet above roadbed. In fact, at two of the greatest summer resorts in the world to-day in the Northern Cascades, snow lies at a level of one hundred feet above entrances to lodges where tens of thousands of tourists are parking motor cars by May and June. These are hard figures for an Easterner or Middle Westerner to credit with his experience of a snowdrift limited to the top of a barb wire fence.

Yet the Central Pacific could brook delay of neither summer nor winter by so much as a day. The land grants and the bonds endorsed by the Federal Treasury for the same amounts as the Union Pacific were forthcoming on the same fulfillment of so many miles constructed and passed and so many miles inspected by government engineers. The road with the longer mileage before meeting the other road would get the bigger grant. Crocker, who really became the driving power on the Central Pacific, is described as forcing work ahead "like a mad bull." He had to, or the Central Pacific would have collapsed. When engines met and bumped noses in Utah in 1869, the Union Pacific had 1,086 miles to its credit from Omaha, and the Central Pacific had 689 miles from Sacramento.

While the Union Pacific could get a splendid working force of discarded soldiers from the Civil War,

n the early days of rail travel across the mountains there were many desperate attles with snow storms. This train of cars is snow-bound in a drift near Ogden, Utah. Many of the laborers are Chinese

the Central Pacific had to rely almost entirely on cheap Chinese coolie labor. It was cheaper both in wages and food and the coolie balked at nothing in the way of hardship and long hours; but it hardly needs to be told that no coolie could stand up in heft and sheer endurance against young soldiers hardened by the Civil War.

These were the factors which kept the two rails racing for the meeting point pretty well equalized as to advantages and disadvantages. The Union Pacific had to haul timber over hundreds of miles in arid lands, which added enormously to the cost, but the Central Pacific had to bring all its equipment, all its flat cars, every pound of iron and steel by ship round the Horn or across Panama. In one case it had to charter vessels at an exorbitant figure to get construction equipment in on time for summer speed. The Union Pacific could get its equipment in over its own rails fast as laid; but the Central Pacific could get all the timber for ties and trestles on its right of way at no cost but labor. The Union Pacific had to fight Indian raiders every mile from Kansas west; but the Central Pacific had to fight winter snows. The greatest hardship which the Central Pacific met was that it could not get its land grants surveyed and certified in time to make the slightest use of them, either in sales to settlers or as a basis for bonds to raise the desperately needed cash for speedy construction. There were old Spanish land grants to be settled in American courts, which did not exist; and there were vast areas in the Sierras, where surveys

were not made till many years after the Central Pacific had been a running road. This explains why Central Pacific stock went begging at ten cents and seven cents on the dollar, and why its founders had to hang on because they couldn't sell out. They couldn't find a buyer. They had to hang on — which their heirs, no doubt, count as sheer luck — hang on almost to 1900, when the dispersion of the Huntington estate for the first time put such shares into the hands of bankers and the public.

The Union Pacific became smeared in the Crédit Mobilier scandal; but the Crédit Mobilier was dragged in all its ugliness to the light of open day. The public could judge for itself where condemnation was due, and where extenuation. In the case of the Central Pacific, involved in just as ugly, malodorous construction scandals, the public could never get the records in evidence, because they had been utterly destroyed. It does not matter much to-day whether the records had been "crooked and cooked," or an absconding employee had lost them to save himself, or they had been burned in the fires that swept San Francisco three times in ten years, or a pliant tool had fled to France and dumped them in the Seine. All four explanations have been given. The point is — when ugly charges are made and no records exist to prove or disprove — the smear sticks. Any charge can be made and can't be proved or disproved, and this explains the ferocious attacks on Central Pacific and its child, the Southern Pacific, and all its hosts of grandchildren in the way of waterfront terminals

and free grants for town sites and playing favorites with friends, until it was split up in the great modern systems — the Union Pacific and the Southern Pacific.

The story begins before the Guadalupe Hidalgo Treaty of 1848, when California became American territory.

Cortes had tried to follow his conquests of Old Mexico with marine discoveries up the Pacific Coast. His main discoveries did not go far in either Lower or Upper California. He was too far from his base of supplies on the Atlantic and had too many envious enemies back in Spain; but the priests did carry on. Whether over the desert sands from Mexico City to Santa Fé, and across to California up the Pacific Coast beset by Apache, Yaqui, Pima, Papago, they got into California from what is now San Diego to San Francisco; and there behind their adobe walls, with the free and often enforced labor of slave Indian converts, cultivated the orchards of oranges, of limes, of lemons, of grapes, of walnuts, which have laid the foundations of more California fortunes than all the gold rush of '48 and '49. To be sure, at one period, Franciscans and Jesuits hated each other almost to the point of wanting " to scratch eyes out "; and at a later period, the secularizing of all missions left the priests stranded on their own resources. By that time, their own resources left them independent of help from the Pious Fund of Old Spain or the treasure boxes of Mexico City. They could trade their fruits and vegetables and wines to the coasting vessels of all nations; and though the wine might recall terrible

pioneer memories of martyr blood shed in Indian raids, or more terrible deaths from maddened thirst crossing the deserts, certainly from 1800 to the American period of 1848, the life of the missions was placid, plentiful, peaceful, as few eras in human records.

If it be asked, did not the missionaries carry the cross in one hand, the sword in the other? The answer is, yes, they did. They came in first as chaplains to conquering armies; but what armies! Except for young lieutenants of pure Spanish blood, the soldiers were ragged corporal's guards of twelve or twenty men, with muskets and ammunition enough, but for the most part minus clothing sufficient for pantaloons — only dirty shirts belted in and feet encased against cactus spines and hot sands in sandals and rawhide shoepacks. Both before and after Spanish power had been cast off, from 1812 to 1820, most of the soldiers were convicts of too black a dye in crime to be used in Mexico. They were more a curse to the missions than a blessing. Their crimes among the Indian women provoked constant reprisal raids. It was hard to make converts among tribes, when the white men seen outside the missions were as arrant a set of scoundrels as ever darkened the pages of pioneer life. The missions, by persuasions of love — backed by occasional whippings — might hold the Indians loyal; but they also protected them from slavery in Mexican mines and loot and outrage at the hands of frontier riffraff. The picture of the conquering Spaniard, with soldiers clad from head to heel in armor and padre with flag and cross upheld

as Indians knelt for blessing, may be artistic as it is embedded in memory from countless paintings. It is a very impressive and beautiful picture as a work of art, but about as fantastic and far from fact as fat old Father Christmas coming down a chimney flue eighteen by eighteen inches when the old chap's belt really measures close to fifty.

While one trend of newcomers followed overland, from Old Mexico came another alien trend by sea. If you will look at a map of California, you will see there were few harbors where ships, whether explorers like Cook and Vancouver or fur traders like the New Englanders and the Russians, could put in for repairs and supplies. San Diego, yes, excellent, though the sleepy Spanish commander might fire one shot from his solitary cannon across the intruder's prow to keep him out and then welcome him with a laugh that he had to obey " orders " but was really anxious to trade his wines and fruit for the lovely silks and shawls and teas and spices from the Orient. You will find those old priceless shawls among Spanish families to this day. Then Los Angeles, or rather a bay in the Catalina Islands, where ships could careen and scrape the barnacles from keels and hulls and replace stern and fore posts almost " honeycombed " by what the early seamen called " the sea worms of the Pacific." From Catalina northward was a different type of trade. Descendants of the Spanish lieutenants and Mexican soldiers enjoyed the easiest and most halcyon life ever lived by a sunny people in a sunny clime. Stock could winter out. The black cattle could

thrive free, summer or winter. Land grants of from one square mile to thirty square miles had paid soldiers' and officers' wages. Haciendas with adobe-walled gardens gave the security of almost army life to the ranchers; and the flesh of the black cattle yielded hides for clothing, tallow for calking ships and a dry meat nutritious and weather-proof as the prairie buffalo. Thither came the fur trade vessels in flocks like sea birds winging south as the gales off the North Pacific drove them from Alaska and New Caledonia and Oregon shores; and here they were welcomed much the same as at San Diego, with a show of "keep out" to obey commandant's orders and a laugh of "come in" to welcome with wines. Then Monterey, a great center for years, then San Francisco, then Bodega Bay, where the Russians had a grant from the Indians after the time Astor had gained foothold on the Columbia. It is said this Indian title cost the Russians three blankets, two axes, three hoes, and a bag of beads; but it gave the Russians a place for a fort and a land to raise wheat for their traders up at Sitka. If space permitted, the story could be told of how the Russians got the consent of the Spanish commandant to this colony by wooing the daughter of Arguello, Donna Concepción, poor little signorita, whose lover perished going back to Russia and she herself found consolation in a convent. Anyway, the Russians were firmly installed before the revolutions cut off all Spanish ties.

If another question comes up — how could the

Spanish wander over all this territory without stumbling on the very gold that peopled California, the answer is simple. The Spanish did not go back from the coast. With convicts for soldiers and Indians for enemies, they did not dare; so they missed the lure that had entrenched Spain in Mexico for three hundred years. Else California might to-day be a Latin-American republic.

But long before gold had brought American population in a stampede to the Pacific Coast, the ubiquitous fur trader had been drifting in — drifting from Oregon on the north, from Santa Fé and Taos on the east, yes, across from Ogden's Hole and Salt Lake, though he usually got through with little more than his scalp. As the fur trade played out up in Alaska with decreasing sea otter and was thinning so in Oregon that British traders were preparing to move up to British Columbia, many an independent trader bethought him of that genial clime where ranchers lived a secure life behind fort walls and nature did the rest to give him plenty.

In the topsy-turvydom of revolution after revolution up to 1848, it was not a difficult matter for an alert American to attach himself to the party he thought might win and get a land grant where he settled down to a life of well-earned and much-needed repose. His fees for a land grant that might run from six to twenty miles seldom exceeded twenty-six dollars. There he planted him oranges and lemons and figs and walnuts and quinces and, turning out his black cattle or sheep with a Mexican herder, took his

ease in one of the most romantic periods in Californian history.

Little need be told of the events preceding the treaty by which California became American territory. President Polk would have bought California at any time for from four million to fifteen million dollars; so would Sir George Simpson for the Hudson's Bay Company. Simpson's plan was to swap the debts of Mexico to English bondholders for California; but owing largely to the report of a naval man — Gordon, relative of Aberdeen — more renowned for his verdict than anything else in his history — "Oregon not worth a damn" — the British government would not support Simpson. The newly-born Mexican Republic could not hold Upper California for the same reason that Cortes failed to push discoveries — too far from base of supplies and utterly inadequate and unreliable military forces. Californian independence under Mexican leaders was torn to shreds by revolution after revolution till it fell to American control and that through three factors — American battleships off Californian harbors, American support on land, and the deadly disgust of the old Spanish ranchers with disordered anarchy in the country. When Commodore Wilkes was in California in 1841, the presidio of San Francisco was deserted. It had exactly one officer and one barefoot soldier. When Simpson was in Monterey a few years later, he found its fort in almost as great disrepair, though the ranchers and missionaries and Spanish families still lived their lives of isolation and plenty.

It is necessary to telescope back to this past history of California in order to understand why, when thousands of miles of steel rails had been constructed in the East and Middle West before 1862, California had little else than charters stillborn from her state legislature and one little line up the Sacramento Valley. It is farther necessary, because any man with the foresight of a child must have figured how, with the fur trade passed forever and the gold boom subsiding after producing half a billion in twenty years, a new era was dawning in which fruit and wheat and cattle ranch would provide traffic for a railroad if only the two terrible impediments of the impassable Sierras and the raising of capital could be surmounted.

Fortunately, though the subsidence of the gold boom left the usual human wreckage in its wake, it left something much more valuable. When the Erie had been chartered long since in the East, ten millions was considered a stupendous capital; but in a country where half a billion had been taken by surface mining in twenty years, men ceased to think in thousands or merely millions. It was as if a penny held too close to the eye and cutting off vision of larger things had been suddenly removed and men began to see farther, perhaps dazzled a little but, withal, seeing a bigger, better, surer future.

Statehood had to come to maintain order in the mushroom growth of cities and settlement. With statehood came the land grants in Lincoln's day. When California heard that land grants had been signed by Lincoln, such jubilation raged in San Fran-

cisco as the city had not known in the gold rush of forty-eight.

"A multitude of flaring lamps and torches and blue lights, with any number of banners; over fifty transparencies of red and white and other colors; fountains of yellow sparks bubbling up every here and there; meteoric white and red and blue lights shooting hither and thither from Roman candles; and rockets soaring high into the air leaving long tracks of yellow sparks and then bursting in many colored balls overhead — thus the long and brilliant procession marched in a blaze of lights, while the air was thick with smoke and loud with the music of clamoring bands, shriekings of the steam whistle and the thunders of cannon."

But rails had been delayed by the Civil War till Congress decreed as a matter of national necessity a middle belt of steel: the Union Pacific to build from the East west, the Central Pacific to build from the West east. It is hard to realize while "the tumult and the shouting" were dying in the East over the Erie triumph to be succeeded by all the monstrosities of the Black Horse Cavalry up at Albany, that out on the Pacific Coast in such a drizzling rain people had to stand on hay to keep from getting their feet wet, the first spade of earth was being turned on the Sacramento in January, 1863, for the Central Pacific; and when someone wanted to celebrate the laying of the first rail, Collis P. Huntington returned with that bluntness which made him so many foes, "If you want to jubilate in driving the *first* spike here, go ahead

and do it. I don't. These mountains look too ugly. I see too much work ahead. We may fail. There are many months of hard labor and unrest between the first and last spike." The road had been incorporated in June, 1862, with a capital of eight and a half millions of which ten per cent had to be paid in.

Before taking leave of the old era, let us see what the new steel rail was supplanting! Caravans of ten to twenty wagons set out with four to ten mule teams from Los Angeles for Salt Lake; and the freight was twenty-five cents a pound, or five hundred dollars a ton. Letters from New York might come in four months, but more often took six to eight. They were carried from the Missouri and Mississippi by pony express. Professor Cleland says nearly eight hundred men, a thousand horses, five hundred mules were needed for the stage traffic of passengers across country. Passengers furnished their own meals, could carry forty pounds of baggage and had adobe sleeping and cooking stations at intervals. The passenger was also forewarned — please note, it resembles the first traffic down Ohio River — to carry one rifle, one hundred cartridges, a revolver, two pounds of bullets, a sheathed knife, and to wear thick socks, woolen shirts, a broad-brimmed hat, and have on hand for the cool nights, blankets, a rubber cover, towels, and toilet articles. The fare one way between St. Louis and San Francisco was two hundred dollars. In 1860 letters by pony express from Pacific to Atlantic cost five dollars each.

But they were "good old days." They produced

men and women of heroic mold; or the Central Pacific would never have been built.

There had come to California in 1854 a young engineer, Theodore Judah, of Connecticut. He had been a construction man on the Troy and Buffalo branches of the New York Central and had then worked on that little branch road up the Sacramento. He had also been a surveyor in that Peter Dey group of Union Pacific men and was one of the California delegates most actively engaged in persuading politicians in Washington that a transcontinental could be built across the Rockies. When he returned to California in 1860, he had worked eastward from Dutch Flat far enough to know there was a pass through which a rail line could surmount the seemingly impassable wall of the Sierras. The discovery excited him so that neither he nor his wife could sleep. It is told rather sardonically to-day how when all men doubted ever crossing the Sierras, among those who contributed to pay his survey expenses was a hardware merchant — Huntington — who gave a barrel of flour. As a barrel of flour varied in value all the way from fifty to three hundred dollars in the gold era, it was not so insignificant a contribution to a great adventure as it seems. It would at least keep Judah and his wife alive on their camping expeditions. Of all the contributions made in Dutch Flat to the survey costs, not one exceeded fifteen dollars cash and nine were for only ten dollars each. In spite of the gold boom, by 1860, though hope was high as the " ugly mountains," men who hadn't struck it rich were exceedingly short on

cash. Judah figured the road would cost seventy thousand dollars a mile; but when he opened books and asked for only ten per cent subscriptions down, few subscribers came in, mainly because the new state laws made subscribers liable for all debts of any company in which they held stock. Sacramento — the new capital — was not a rich town and up to the granting of lands and guaranteeing of bonds, the total of cash promises — not the cash, itself — did not exceed fifty-seven thousand dollars; and all came from Sacramento, not San Francisco.

When the United States Treasury appeared on the horizon as a backer, there came into the Central Pacific the Big Four — Collis P. Huntington, Leland Stanford, Charles Crocker, Mark Hopkins. Huntington and Hopkins ran a hardware store, which was, of course, prosperous; for whether miners succeeded or failed, they had to have picks and pans and spades. Stanford and Crocker were general merchants and rated as prosperous. Anyway, Stanford had ambitions to be governor and was elected on the Republican ticket in 1861. Huntington, who had been a peddler of watches from New York to Missouri and had joined the gold stampede with savings of twelve hundred dollars, "increased to $4,000 by swaps as he crossed Panama," had worked up in Sacramento to own a business worth perhaps twenty-five thousand dollars. He was regarded as a "hard man" in business, not the open-handed easy-come-and-easy-go typical miner, who scorned small change under twenty-five cents. One would expect that of Hunting-

ton. He had been born in Connecticut and paddled his own canoe since he was fourteen. Stanford was a young lawyer from New York State, who had been in Wisconsin up to 1852 — a rather bad period in Wisconsin for rails. Stanford and Crocker were estimated to be worth about sixty thousand dollars. Crocker had been a peddler, a gold miner, a trader. He weighed between two hundred sixty-four and two hundred seventy-five pounds, five feet ten and three-quarter inches tall, and is described as " a mad bull " in driving power. Hopkins was the quiet accountant type, " the balance wheel," the long head, not daring, but careful of each step. Sift each man's later biography as you like, that is the most you can dig out; but it made a rather remarkable quartet, men worth together not more than eighty-five thousand dollars were not appalled by a venture calling for over eight millions capital and ten per cent to be paid down. Two or three others were called into the group, but each would assume only one-seventh of cost for surveys alone; and by 1862 Judah had raised his estimates for the mountain sections to over eighty-eight thousand dollars a mile. The estimates were, of course, far too low. No difficult rail section across mountains has ever been built for that figure; but Judah enthusiastically probably figured that once such a double team had been hitched to the plow, they would not let go till they finished the furrow; and he was right. They didn't, though Crocker again and again tried to sell out. He couldn't. There were no buyers. When he went to Virginia to try to sell

stock to keep the wheels going round, he could not sell one share, no, not for a dime. Local counties and cities also helped enormously with backing of bonds. With the United States Treasury help and local help, the Central Pacific got in all by 1869 over forty-seven millions; but remember that when it began it had little behind it but the Federal backing of sixteen thousand dollars a mile for flats, thirty-two thousand for uplands, forty-eight thousand for the mountain sections, and lands on which it could not realize for years. Did the Big Four ever pay cash for their stock? Because books were destroyed, that question cannot be answered. The inferences are they did *not*. Did they in any way pledge their private fortunes to push the Central Pacific? There we are on the safe ground of facts. For ten years, over and over, every one of them gave all he owned as collateral security to endorse notes for the cash needed; and on these notes they paid ten to twelve per cent. It took some courage.

The most blasting discouragement up to 1864 was that they could not induce a banking house East or West to touch either Federal or state bonds. By 1864, first mortgage bonds could be sold for 75 and state bonds for 56. When you consider that interest on those bonds had to be paid — and was ultimately paid to the last dime — that discount was terrific. For every dollar the Central Pacific went in debt, it was realizing only fifty-six to seventy-five cents.

With such financial handicaps, why did the Big Four launch the Central Pacific? Why did Hopkins, the balance wheel and accountant, sanction such

financial suicide? Because — let us not shy at facts — they became their own contractors for construction and on construction accounts could profit. The accounts could be "padded" against their own rail company. That trick isn't unknown to-day and has wrecked every road that devised and used it, while it has left the contractors in some cases — as in one of the two sections making up Canada's Nationals — "stone broke"; in other cases — as on the Central Pacific — colossally rich.

Was that legitimate?

It is not so regarded to-day; but we are not measuring 1862–69 by the yardstick 1928. There was just the one problem in that period — how to get steel rails across those mountains.

To get local aid from municipalities, the Central Pacific was charged with "playing favorites." If such and such a county wouldn't "come across" with bonds, they would pass the chief town and establish a site of their own; "so," said one complainant, "they blackmailed us for $230,000 and got it." What the complainant might have added could he have foreseen was that the county and its suburban cities have a population of over a million to-day purely through rail connections; but the thing was vicious. It tossed a great national rail venture in the dirty vortex of civic elections. In San Francisco, for instance, Stanford's brother saw no evil during the election of 1863 of driving through the town and from a bag in his buggy scattering twenty-dollar and five-dollar gold pieces "near" polling booths. We

read of great feudal barons doing the same thing, which they called "largess," but democracy does not approve of "largess"; and it always brings its reckoning.

One could cite pages of this sort of thing from court records; but these are typical enough to explain why the Big Four got all the discredit and not much of the credit that was their due; and yet, going back to that Destiny using unconscious human tools with all their evil for higher ends — could the Central Pacific have been built without such types? Every transcontinental spanning the United States but two — the Santa Fé and the Great Northern — was marked by such episodes; and you will learn that the Santa Fé was not exactly a Sunday-school class with "canyon wars"; and Mr. Hill could checkmate rivals when they blocked his plans. There is hardly a writer on all California history who does not fall back on that theory of Destiny to explain the march of events: Old Mexico unable to hold Upper California just when adventurers from the outer world were pouring in; the Mexican Republic torn by revolutions just when Polk was ready to buy all California; the British government failing to back the Hudson's Bay Company's plans for expansion, just when American admirals happened to be in California ports when most needed; the gold rush bringing in a stampede of new population just when the old era of plenty from trade with the fur coasters had passed; then when the gold rush was over, and Nevada's silver rush coming, the Civil War literally forcing the building of a transcon-

tinental across a territory which did not seem to give the slightest promise of ever paying traffic returns. It was as if a Great Higher Hand beyond human control gave its tools a push and then they had to go forward, smash or not, of their own momentum. I don't suppose one of the Big Four, who pushed the Central Pacific through, ever had the slightest hope of the stock set aside for their reward ever giving them one dime of profit. Else they would not have tried so frantically to sell it for seven and ten cents on the dollar. Yet their heirs, who had to hang on because they couldn't get rid of it, and men like Harriman, who later bought it at from twenty to thirty cents on the dollar, lived to see that stock sell on its pure investment values at from one hundred and twenty-one to two hundred dollars and more.

And besides the inherent difficulties of financing the Central Pacific was just such furious rival opposition as the rails of the East had encountered from stage companies, from toll roads, from the Pacific Mail Steamship Company, with their prosperity and profits jeopardized by a project which they were positive could never succeed. Pages and pages of that fight have been told in court and out of court; but why repeat them? They, too, have gone down to the limbo of junk under the steam roller of progress.

At what price did the Central Pacific sell those lands, whose exact areas have been given elsewhere? At from two and a half to twenty dollars an acre — tall timber at five dollars, pine at ten. The cheap land was in what was called " the desert area," which

now sells as fruit land at from seven hundred and fifty to four thousand dollars an acre. Or else it was in oil areas; and there one hesitates to set down the modern value. It might make the Big Four turn over in their graves. It is one of the sardonic jokes of history. As to the timber values, there, as well, Destiny must smile. Some areas sold at ten dollars an acre for one hundred and sixty acre homesteads have since resold at twenty to thirty thousand dollars for the homestead. Surely we are far enough away to laugh at the pranks Fate sometimes plays; and never a prophet stellar or mundane uttered a peep of what was coming. We have cursed the rails for what they got in land grants. I have often wondered if they haven't cursed themselves more for what they let go. To me, the joke was not on the public. It was on the rails.

Now to consider the human side of the rank and file who battled with the elements to put the line through — there were snowbanks from thirty to a hundred feet deep to be scooped out in white tunnels before roadbed could be blasted for foundations. While these blockades held back the main armies of coolie navvies, the rest had to haul supplies up the canyons of Truckee River. Snowsheds here cost two millions in one winter for less than forty miles. In other words, the snowsheds alone on this division took fifty thousand of the eighty-eight thousand Judah had figured per mile. They took all the Federal Treasury grant. Rails cost ninety-one dollars a ton without transportation. Transportation across Pan-

ama brought costs to one hundred and forty-three dollars. Hay for the teaming cost one hundred dollars a ton. Potatoes to feed the crews were two and a half a bushel. Ties were cut from right of way but by the time they were hauled through such snow tunnels, they had cost six dollars apiece; and once poor Huntington nearly had apoplexy on a tour of inspection above timber line. The cold had been so bitter, his workmen were using up twenty-five ties a night at each camp to keep warm. All through 1867, fourteen thousand men were at work at an average of thirty-five dollars a month and, though it was cheap "coolie" labor, it is a question if cheap coolie labor at this price was as cheap as the soldier labor at work on the Union Pacific at twice the cost. At first, Crocker, who was chief contractor, received in payment five-eighths cash, one-fourth bonds, one-eighth stock. There was "a big row" — as Judah testified — over those first contracts. Whether Crocker was dividing profits with the others of the Big Four, which he might have done at sixteen thousand dollars a mile for flats, or whether he saw ruin ahead when he reached the mountain sections — we don't know. He certainly made a terrible kick to be paid monthly. He couldn't sell his stock for thirty cents and from 1867, the Big Four became their own contractors under a subsidiary company. Of course, the four merchants who were the same men as the Big Four stockholders and construction company, could sell supplies to the construction company, which could charge them against the Central Pacific.

Did the four merchants pile on prices here, the construction company "pad accounts" charged and loaded finally on the Central Pacific's back? Again — these records were destroyed! We don't know. Human nature would not have been human nature if they hadn't. We know they did not pay a cent of subscriptions in cash to the construction company. They gave their notes and discounted their notes with their private property as security. This yielded cash to go ahead. Whether it was Hopkins, the quiet man of the Big Four, or Crocker, who took a hurried trip to Europe, or an absconding secretary who "lost" the account books, we do not know. We do know they were "lost," and lost account books in such cases have an ugly look. All we know is — the Big Four seemed to get stock worthless at the time without cash subscriptions; but — and please emphasize the *but* — the Federal Government got back its loan in full. Of course, the loan repaid came out of traffic receipts and the traffic charges were high and the public paid. Did the public get back returns commensurate in freight service and in increased values along the line? I don't know. All I know is — the Central Pacific got itself built and justified all the Federal government had advanced. Also the Central Pacific at its very worst never became the football of stock gamblers like the Erie. That may have been because it seemed too risky for stock gamblers.

How about the service in the early days? Better than the coaching days but nothing to boast of, not to be compared with the old Erie. The ballast was

so poor, the grade so steep, the engine power so weak that in wet weather — as Daggett says — the rails slipped like "wet soap." The speed was nineteen miles an hour compared to the Erie's mile a minute. Cars were heated by stoves with wood for fuel, but passengers were expected to carry their food or hop for their meals to eating houses while the engine got a drink. It was all very primitive up to 1874, but I have traveled on worse roads in 1924, where there were not any eating houses to hop to and you sucked a lemon for drink because you didn't want to increase thirst by drinking alkali water.

The "grabbing of the waterfront" at Oakland is too long a story to be told here. It gave the Central Pacific a monopoly of the waterfront for many years; and a monopoly never yet helped any rail in the United States as much as it hurt itself. It subjects the holder to every shift and veer of political winds, and throws it in the vortex of dirty politics; but the granting of that waterfront in return for traffic benefits expected was really only the deferred result of San Francisco refusing to back the Central Pacific when the Sacramento men did. This monopoly, too, is a thing of the past; but the ill will created is an evil heritage. Feeders of the main line had been pushed up the Sacramento Valley to Oregon — this by consolidation; but the area attracting Huntington's sharp eye was not the Middle Belt — which national aid had compelled both the Union Pacific and the Central Pacific to cross. It was the shorter route from the Gulf of Mexico across to the San Diego

section of the Pacific. A line would undoubtedly pay from San Francisco down to Los Angeles in spite of steamer competition. So would a line from Los Angeles to San Diego; but from San Diego across the desert to Texas — would that pay? Los Angeles had a population of five thousand people by 1870, San Diego had twenty-five hundred; and there was the ranch traffic between to be gathered up. Huntington and Stanford got these little independent lines known as the California Pacific again by consolidation. Was the consolidation fair to the little line? Suits dragged on in courts for years; but the main point is that the little independents could not pay interest on debts and so came into the Central Pacific's net. This was really the beginning of the Southern Pacific Railway system. The Southern Pacific had been chartered in 1861, and Congress had given it the usual rich land endowment. Then all the little lines south came under the general name Southern Pacific in 1870. Construction had to go ahead as far as the Colorado River to earn the land grants. Again the same system of subordinate construction companies did the work and again there was no disentangling of the books of the rail company from the building company. Certain town sites along this new rail line to the number of thirty fell as bonanzas to the new line, through its building partners, which were to all practical purposes the same as the rail line. It is known that the Central Pacific acted as the bank to advance cash for both the Southern Pacific and the building contractors. Their pay cars were often identical.

When Hopkins died in 1878, he left an estate of nineteen millions. When Crocker died in 1889, his fortune was appraised at twenty-four millions. Certainly those fortunes were not acquired as merchants in Sacramento. Nor could they have been acquired up to 1889 in Central Pacific investments. Central Pacific was too costly a construction business to have left such profits. The only inference is that the profits must have come from the construction contracts of the Southern Pacific, which was infinitely cheaper work than the Central Pacific across the Sierras. In all up to 1888, the Southern Pacific had absorbed eighteen lines as far as the Colorado, built by the same system through more or less the same construction companies. It was this sense of a line loaded to the limit by its builders with cost charges and then passed into the hands of a monopoly, which in California for a quarter century aroused such furious antagonism to the Central Pacific and its foster child, the Southern Pacific.

Rivals forced Huntington's hand. The rivals were what is now known as the Santa Fé and lines from Missouri to Texas, which Jay Gould was beginning to shepherd in the first really constructive rail work of his hectic life. Gould had been offered a share in the Southern Pacific. It was bonded for forty thousand dollars a mile. Gould figured it shouldn't have cost more than twenty-five thousand dollars; so he demanded stock thrown in with bonds to balance the profits which the builders must have made.

The Central Pacific now covered in a network

from San Francisco north to Oregon, from San Francisco east to Utah, from San Francisco south to the Mojave, and east to the Colorado. On the death of Hopkins and Crocker, blocks of Central Pacific began to go into the hands of the general public. Large blocks were sold in Great Britain and Holland at fifty to fifty-six dollars a share — a slight rise in twenty years from seven and thirteen dollars. The Big Four and their heirs no longer controlled a majority of the stock. Huntington and Stanford seemed to have been shifting their holdings over from the Central Pacific to the Southern Pacific. Why? Need even a child ask the question? Because the building of many extensions then known as the Southern Pacific had been shifted over through the construction companies to the pay car of Central Pacific. On father's back rested the burden of son's extended business. Also — look at your map! Which line — father's or son's — Central Pacific or Southern Pacific — seemed likely to get the most pay traffic? The shortest route between the two tidewaters — the Pacific and Gulf of Mexico? Yet control of son's pay business was in father's hands — Huntington and Stanford. If father was not a sly fox, he at least was not a dull one. Jay Gould could hardly have beaten the moves on the rail checkerboard. To complete the game, a distinct Southern Pacific was organized in 1884 in Kentucky with a charter empowering it to do anything under the sun to run a road from the Pacific to New Orleans and with a capital of one hundred million dollars to take over the certificates of the old Southern Pacific shares.

It was an amazing charter. It leased the old road for ninety-nine years. It leased the Central Pacific for ninety-nine years and took over all its debts except the great principal indebtedness to the government.

Again one of the grim jokes in rail history. Who could foresee that in four more years the Interstate Commerce Commission would be born to take a hand in unscrambling Huntington's eggs? Still less, who could foresee that a poor clergyman crossing Panama in the great gold rush that drew Huntington to the Pacific had an infant son who would take in his hand both the Central Pacific and the Union Pacific and put them on a paying basis and then add to these twin lines that very Southern Pacific which had slipped from beneath its own load? That son's name was E. H. Harriman, with only one slip to his discredit, one of the greatest rail geniuses the world had ever produced.

It is hard to pass a fair verdict on the Big Four by the ethical standards of to-day. Look at their faces, especially the old tintypes of the frontier, which did not flatter as do portraits painted at a later day. They were not evil faces. They were not the porcine jowled types of the shyster rings who plundered the Erie with less compunction than a hog cleans up its feed trough. They were not the fox face of a Drew, nor the gentlemanly face of a Gould. They were big men physically and mentally, hard physically and mentally as nails in business but kind, generous, colossally generous and public-spirited in gifts to the state which had given them their prosperity. One of the

greatest museums in the world stands to the honor of Huntington, one of the greatest universities in the world to the honor of Stanford. Yet both men had grown up unschooled except by hard knocks. They had gone through the gold rush and had not made money. The money they first made was by the thrifty hard route over the counter in daily sales. They had earnest faces, glances that bored through every man they looked in the eye and their eye never batted a glance. Each seemed animated by almost terrible driving power. It was a demon. They were relentless in pursuit of their aim, ruthless in their methods, bull-headed and tactless in their handling of the public, and, let us add, they were openly and frankly unscrupulous in ways and means to their end. But over against that indictment stands the fact that they were builders — builders of everything they touched. Not one had a vicious fad. All had great love of fast horses; but who on the frontier hadn't in those days? As for ethics, it is a toss-up if any one of the four knew the meaning of the word, especially ethics in business. For then there were no ethics in business except in the vernacular "to get there." The very systems which built up their properties pulled those properties down. Perhaps it is a good thing they died before that happened. They wouldn't have been able to understand it. They could not have adjusted themselves with platitudes and unctuous cunning to a new order. Perhaps the fairest verdict is simply that, like the old fur traders who preceded them, they were the last great outstanding figures of a feudalism that had

grown up and existed in a pure democracy. It was doomed to go; but it did its work before it passed; and as the little girl says in the fairy story — There you are! What can you make of it?

Life does not deal with theories. It deals with facts.

Chapter XXIII

Mutterings And Rumblings Of The Coming Storm. 1860–1873

THE wisest of the world's teachers reproached the writers and lawyers of his day because, though they could read the signs of the weather, they failed utterly to read the signs of their own times. They failed because they didn't want to read them. They did not dare face the omens of bad signs. Sunspots, they could see. Sunspots on the glare of prosperity in which they basked, they *would* not see.

Something of this sort now comes in the record of rails' progress Westward belting the continent. There were sunspots. There were mutterings and rumblings; but none so heedless as eyes that *will* not see and ears that *will* not hear!

The land frauds that followed the land grants to rails were colossal. One could pick them out from the Canadian boundary to the Mexican border in millions of acres and thousands of miles of steel rails. Charters for rails were obtained *not* because the new highway was needed but because promoters hoped and perhaps persuaded themselves they could sell those lands, received at no cost to themselves, to an inrush of settlers at greatly advanced prices, or sell the rail stocks or bonds on these land grants to a public mad with a speculative mania, then retire with profits, and leave buyers of lands and securities to sink or swim, struggle or strangle.

"In an evil hour Stephen Douglas advocated land grants."

"The little finger of monopoly has become thicker than the loin of the law."

"Farmers are cruelly oppressed . . . our courts are debauched . . . our judges are bribed . . . the public pays the profits on floods of worthless stock . . . the law of the land is defied. . . . The people have paid for the rails in rates and land, and the stock holders get the profit . . . if a man steals from me enough to buy him a horse and then charges $5 for carrying me a mile, he does on a small scale what subsidized capital does on a large scale."

I could go on quoting a hundred such charges after the Crimean War, when the price of wheat soared to the sky at three dollars a bushel for any grade and then from the late sixties when prices as suddenly fell, shot down to forty and thirty cents a bushel. Political platforms rang with such charges. The press featured them; and one of the quotations cited is from a judge.

Land grants were forced by the necessity of the period in natural growth. No one denied that; but what the antagonist to the system demanded belligerently was — did that excuse the evils which flourished under the system? Here was a rail that could *not* go ahead without land grants. It got them — millions of acres. It either sold them or used them as collateral security for bonds to go ahead and build. All right so far. The shipper was willing to pay rates to yield interest pledged on those bonds. He knew all about that. The bond was simply a long-time mort-

gage at a lower rate of interest than the farmer could get. He knew all about that from his own farm mortgage, which hounded him to desperation when prices fell or crops failed; but how about millions of dollars in common stock issued to the directors for which in many cases not a dime had been paid? Aye, there's the rub — said these desperate farmers like Hamlet, when they witnessed all their hopes blighted by hard times: Should we pay rates to yield dividends on that? It was " watered stock " in the worst sense of the words. It was worse. It was slime doped with falsehoods to go down the investors' throats; and to the farmers' antagonism was added the fury of the befooled and cheated investor. Such outrageous antics as characterized the Erie's gyrations, though it was not a land grant road, shook the public faith in all rail promoters. No distinction was made between the Big Four of the Central Pacific pledging their all to get a road through and then paying themselves with " watered stock " which they could not sell, from Jay Gould and Drew issuing " watered stock " in buckets and then playing the market for profits. The searchlight of blazing anger focused on the successes of manipulators and then scorched the real builders, who had to take losses or weather storms in hard times.

Other factors now stand out clear which still farther embittered the farmer. The Crimean War sent grain prices sky high. I have a great-uncle who came from Scotland in this era with a large family of boys, bought all the land on which he could lay hands and

sold grain at three dollars a bushel throughout that war. He had the vision to foresee the storm brewing between North and South and straight through the Civil War his younger sons were held to the farm. He repeated his signal successes, to retire on the close of that war a very rich man; but many farmers had not that foresight. Neither had they a large family of growing boys. When prices collapsed after the Crimean War, they were caught in the fall of all farm values. There was a minor panic in 1857, which, as far as discontent in the Middle West was concerned, was immediately relieved by the outbreak of the Civil War, which again sent farm prices and farm values soaring. Looking up old Ohio state records, it is almost laughable to read the dolorous predictions of overproduction presaging total ruin to farmers. That total was less than a tenth of what we produce to-day. Why, that Cassandra of ruin cried aloud to high heaven, there are not enough people on earth to eat that awful quantity of wheat. This grain prophet was the greatest authority on grain in the Middle West from 1856 to 1860. The world to-day eats four billion bushels of wheat. The total production of the United States at that time was less than one hundred million bushels. The Civil War dispelled and disproved such false prophecies. Again the farmer basked in a false prosperity, perhaps a fool's paradise; for the discarded soldiers of that war flocked to the low-priced lands and again sent land prices up from a dollar and a quarter and two and a half an acre to fifteen and thirty dollars. It seemed such easy money,

it was almost dropping out of the skies. Also the enormous rail expansion from 1864 to 1873 gave farmers big pay as teamsters as well as sellers of farm stuffs; but what about it when prices for farm stuffs suddenly again slumped, and land could not be sold at any price, and debts in greenbacks had to be paid in gold and interest on those debts in gold? Then began the mutterings and the rumblings and the ominous clouds that crashed in the storm of 1873.

It was really in this era the Granger movement or Farm party under its various protean names was born. In this same era there framed gradually in men's minds the need for a Federal commission to deal with all relations between shipper and rail, which we to-day know as the Interstate Commerce Commission.

When times were exuberantly prosperous, why shouldn't the rails reduce rates? When times were hard, the rails must reduce rates. When there were no dividends to investors — well, that was their funeral. When there were big dividends, there they were at it again — taking the hog share from the shipper. Such was the burden of complaint that fermented and fomented till it boiled up in demands that politicians could not ignore.

Padded pay rolls for construction companies; rails so badly laid on shoddily built roadbed that replacement doubled costs and bankrupted many a road; absentee ownership by European bondholders and New York shareholders, who could not understand the West's real need of patience for recuperation and tossed shares and bonds on a falling market; rebates

to big shippers, unfair deals to little fellows; rates slashed to ruinous level one year and pushed up without warning the next — gave the farmer a sense of being sucked in a maelstrom of ruin over which he had no control. Go a little deeper in detail — owing to the desperate scarcity of real hard cash after the Crimean War, contractors on grading now often took in payment one-quarter cash, one-half or quarter bonds, the balance in stock. The cash paid the laborers' wages. The bonds could be used to borrow at banks. The stock could also be so used. The bonds represented at least the value of a mortgage for the bank. What did the stock represent? Quien sabe? Can the wisest mind on finance answer? But the evils came out of this system like a Pandora box. Temporary hard times, such as followed the slump in prices after the Crimean War, came on; and it was perfectly natural that some of the rail contractors, pressed for ready money or nervous over falling values, should sell their bonds rashly, in a panic, on a sliding market. With an enormous slam of bonds on a falling market, the bonds of even good roads went to bottom like a stone in a pool. During this temporary derangement following the Crimean War, good sound bonds went to 49, 28, even to 12. Why in the world did sane people throw sound values to the winds in this fashion? Need of ready money, first. Next, when foreign investors saw American investors tossing American securities to the junk heap, they took fright and tossed their own to the same discard. In this era many of the sound roads, like the Illinois Central, the Chicago

and North-Western, the Chicago, Burlington and Quincy, the Chicago, Milwaukee and St. Paul, picked up the bonds at slaughter prices, enabling them later to piece together many little roads in big systems. Land grants can hardly be blamed for this. It is rather additional evidence that no system is fool-proof.

Let us back to the question — did the founders of these first land grant roads not put a dime of their own money in the new venture? I do not know of a single case in the real transcontinental, as distinguished from the purely fraudulent promoters' roads, where they did not pledge all their fortunes, all their friends' fortunes and often risk the fortune of the fiduciary institutions with which they were connected. It was risky — it was tragically risky. The law of the land did not forbid such practices at the time, but common prudence did. Unfortunately, few people can maintain the common prudence of a steady head when the bayonet of necessity or of fear is prodding. If their judgment had been at fault, they would have pulled down not only their own house, but a dozen financial houses, as the Jay Cooke smash later did. Take the Canadian Pacific as one of the soundest roads ever financed. Here Lord Mount Stephen, then George Stephen, the owner of a big department store and a director of the Bank of Montreal, and Lord Strathcona, then Donald Smith, a Hudson's Bay Company man in charge of the pension fund — were the master minds. George Stephen pledged all his own credit and all the credit he could force from the Bank of Montreal. Smith pledged all his own savings

and certainly such portion of the Hudson's Bay Company's retiring fund as he had the liberty to invest. Risky — terribly risky, we whisper beneath our breaths; but when our great fiduciary institutions to-day — life insurance, fire insurance, investment trusts, colleges, and religious endowments — do the very same things in rail bonds and stocks, of which they are the biggest investors, aren't we taking the same risk? They buy at low when the public loses its head. Then they hold or sell at high according to earnings on their investment. The safety of such a policy depends on the good judgment of the man behind it; and such men base their judgment on permanent earnings, not promoters' and manipulators' quick profits. The chasm between those classes is as wide as the abyss between Lazarus' heaven and Dives' hell.

You recall how the Biddle banks tied up in the panic of 1837–39 with lesser banks to pull rail construction through in the South. The Georgia and Virginia roads pulled through, as the Canadian road did; but what if they hadn't? Doesn't it really boil down to the moral integrity and good judgment and close management of — the man?

Or take one of the oftenest cited cases in all raildom — that of Collis P. Huntington. He and his associates pledged all they owned in the Central Pacific that did plunge deep in the gutter of a slimy financial-political era. Huntington was being reproached by the bankers. Certain political features were becoming what is colloquially called, when it

escapes from hermetically sealed secrecy, "a stench." Bankers and backers were threatening Huntington, not with exposure — Heaven forbid! That was the last thing on earth they wanted — but with pressure. Now, Huntington was a big man physically. He had a big temper and he had a big voice and he was rasped. Tradition has it that Huntington whirled on them in a tempest: "Here, take them," he stormed — ("them" referring to lands, bonds, whatever could be sold to raise money) — "if you can sell them, you can do more than I can — and you're welcome to them — go ahead." They didn't go ahead. They left Huntington to go ahead as best he could; and his best was in spots pretty bad.

Granted that such men behind land grant roads did take common stock in inordinate amounts to themselves for their first advances of a few hundred thousands or a few millions. At the time the common stock was not worth a dime. When it became worth one hundred dollars par, one hundred fifty, two hundred, should the increment above par be taken from them? Taken from them in reduced rates or reduced dividends? And if taken from them, should the increased values added to the lands along the rails, to the buildings which have grown on raw prairie into great cities, also be taken from the people who bought that land for the price of a turkey, or a horse, or a bag of missionary flour? Draw a line from Winnipeg to Vancouver, from St. Paul to Seattle, from Chicago to San Francisco, from St. Louis to Los Angeles. Then look up the probate

court records on the fortunes left by many rail founders between 1850 and 1900. It is easy. Most of the big fellows passed to their final assize between the eighties and 1900 with a blare of nauseating wealth-worship that left nothing untold and much exaggerated. Put those fortunes down in a column. In a parallel column, indicate the fortunes left by factory founders in those same new rail centers, by bankers, by lumbermen — who could now get their stuff out to market, by coal operators, oil magnates, packers, implement makers, holders of strategic lands in great centers like Chicago. Total the lists. It will be one of the most illuminating shocks you ever got in your life.

Because the very best minds of the period — Lincoln, Douglas, Webster — had advocated land grants, when the census of 1870 was taken, the marshals of the census were instructed to gather facts to show whether these land grant roads were helping the sections for which they had been designated; and I cannot believe that their report was what one would now call doped.

Here in brief is what they set down:

"So great are the benefits [of rails in these sections] that if the entire cost of railroads between the Atlantic and Western States had been levied on the farms of the Central West, their proprietors could have paid it and been immensely the gainers."

The trouble was, the farmers had not the money to pay the levies to build the roads. Output of all grains

in Ohio, Indiana, Illinois, Michigan, Wisconsin — the two latter Lake states — had doubled. Prices had *almost* doubled, and in cases quadrupled. The *almost* is qualified because corn was fed to cattle and hogs and both sent out on hoof or as meat; so corn can be tabulated as wheat; but the price went up from twelve cents a bushel in 1826 to forty-eight cents in 1870. Land prices had gone up from a dollar and a quarter an acre in remote sections to eleven dollars an acre — which was as much as one hundred dollars an acre in money value to-day. In Ohio, the cash value of farms had increased double in ten years, in Illinois almost quadruple, in Indiana triple, in Michigan triple, in Wisconsin four times over. "It is not too much to say," added the marshals' report, "half this increase has been caused by railroads." Then the marshals equally honest in their findings point out that the gain in these sections had been balanced by losses not yet visible in 1870, but sure to show up in the next census of 1880. The thing is so pathetic, I should like to go back and pat those old marshals on the back. It was a prophecy of a double tragedy just coming up over the horizon of the bright future.

Producing was so easy and prolific on the rich soil of the Middle West, it would lead to a terrible decrease in farm values East. It did. The East suffers from it yet.

Wealth had come so suddenly and so easily to the Middle West, many farmers had overexpanded their holdings of land and stock. They had plunged headlong in debt. If prices fell suddenly, they would be

ruined. They were. It was part of the crash of '73. It was part of our own crash after the Great War.

So history still going on in its upward spiral — here a dip, there a rise — from the beginning has repeated itself, because down deep beneath all history are eternal laws, but the mutterings and rumblings and ominous clouds on the horizon were only too accurate omens of the worst financial crash the United States had known till 1873. We have a fashion of saying history does not repeat itself. That may or may not be true; but certain laws of life do hold true for all eternity; and the rail world was about to collide with some of those laws with disastrous results, which become evident in the story of the next two great transcontinentals.

Chapter XXIV
Along The Old Santa Fé Trail. 1820–1893

IN my cabinet of Western curios is an old tobacco pouch exquisitely decorated with beads by some Indian woman of a New Mexican tribe. It was once the possession of that doughty old general and governor, who played such an important rôle in New Mexican affairs both before and after New Mexico became part of American territory — Armijo. It is fragrant with memories of more than the old chap's favorite tobacco; for after having run the gauntlet of raiding Comanches, Kowas, Apaches, Pawnees, across the Great American Desert and reached the end of the long trail from the Missouri to Santa Fé, many an American caravan of traders had to pay the old fellow's arbitrary tax of five hundred dollars a wagon before a pound of merchandise could be unloaded. It was lose all or pay; so the Americans squirmed and paid. The freight had already cost them two cents a pound, or as much as it would now cost to ship a ton of the same freight all the way from Chicago. The trip took one to two months. This same distance can now be traversed in forty-eight hours.

Above my cabinet hangs an old cross inlaid with mother of pearl to mark the stations of the procession held every spring along the winding narrow crooked streets of Santa Fé, in which the Spanish people of New Mexico yet commemorate the great De Vargas victory over the rebelling Pueblo Indians in the late 1600's. No help could come from Old Mexico;

so De Vargas vowed that if the powers of Heaven would come to the rescue, the procession would yearly render thanks to God forever.

Sitting amid a hum of bees under the peach and apple bloom in that delightful old garden of the great French archbishop — Lamy — sent out to act as a more independent umpire of disputes between his Spanish flock and the new American government than the former purely Mexican priesthood had proved, I listened to tales of that old Santa Fé Trail that come down almost to our own day.

Stephen B. Elkins, in the early sixties, had tried his hand at mining in New Mexico; but how to send his " poke " of gold dust and nuggets out, when Americans' caravans subject to raid of Indians and such outlaw brigands as made the Kansas section of the Santa Fé Trail a horror? A not unusual custom was to put the precious gold in the broad leather belt of some trustworthy traveler and then decorate the belt with as many pistols as a penitente's spiked nails. Elkins thought that only invited attack. He tried another plan. A fine old Indian woman was taking her children out to be educated in St. Louis, and to her he entrusted his " poke " of gold. The stage was held up by bandits. The old " squaw " was not molested, though all the passengers were ordered " hands up " while the outlaws searched their persons. The Indian woman had taken no chances. She had put the gold in her pemmican buckskin bag smelling to high heaven in the hot sun on the blazing stage roof. The pemmican bag she had half thrust in a dirty sack. Every soul

in the stagecoach was rifled to a dime. All carpetbags in the pouch below the floor and on the roof were ripped and emptied; but the bandits kicked the stinking pemmican bag aside; and Elkins got his gold out. The story was related to me by one of the descendants of those children educated in St. Louis.

Such was stage travel in " the good old days " on the Santa Fé Trail. I have traveled that trail many times in the same blazing heat behind steam's flag along the steel rail, and what with electric fans, heavy blinds on open car windows, screens to exclude dust, and oil burners in the engine, I have not known it was either dusty or hot.

Another time, on a different railroad — the Southern Pacific — I was anxious to see an ancient ruin just on the border of Old Mexico. It was before the days of motor roads to ruins. As I wanted to make the trip out and back — ninety miles — in a day, I picked the fastest team I could find, which was owned by a Mexican. The revolution was at its height in Mexico, and I was not particularly anxious to be on a border trail after dark. The trip out was picturesque — fantastically picturesque through the sagebrush and cactus along arroyo beds dry as flour, with my little Mexican telling me hair-raising revolutionary tales. All went well going out. I was thinking there was a lot to be said in favor of " the old days " without speed and noise and turmoil. Perhaps the horses were fagged and traveled more slowly coming back. Perhaps we lingered at the old ruins listening to the keeper's explanation of the ancient civilization. Any-

way, coming back, darkness fell with the suddenness it always curtains the Desert; and as it fell, there came one of those terrific cloudbursts that turn dry stream beds into raging torrents and fill depressions with boiling tempests of muddy slime. The driver simply slackened the reins over the dashboard and gave the little horses their head. As he said — the ponies would find the way by " feel," whereas if we tried to guide them by my flashlight on the trail now inches deep in mire, we'd only bump into piñone trees or bog the horses wading the raging arroyos. He was right. They got us back to the little cow-town, but it was two in the morning instead of early evening as we had planned. The whole ranch population had been marooned in the town. I got a bed by taking my turn of eight hours and slept in my muddy boots and ulster coat lest the delayed train should come hooting along making up time. It didn't. The rails had been washed out; and the midnight express didn't get across the gap till four the next afternoon; and I had to wade to the station over planks in boot-high slime. My diet for the night and day was coffee and soda crackers; first, because the marooned people had cleaned out the restaurant supplies; second, because if you are an experienced traveler in the wilds you will learn the first law of health — travel with a tightly reefed-in belt rather than eat poor food or drink flood waters.

Anyway, I had somewhat changed my mind about travel " in the good old days." I preferred to take those " good old days " in retrospect. I looked more

like a water rat than a respectable tourist as I climbed into the pullman, but I changed in the wash room for city garb and made a frantic dive for the dining car. In another twenty-four hours I was in one of the best hotels on the Pacific Coast. " It used to take us thirty to fifty days to drive our sheep across the desert to the markets of Los Angeles and San Francisco," my informant had told me as we sat in the peach gardens of the archbishop at Santa Fé; but what I wondered as I thought back was — What had taken rails across this Southern desert? The Union Pacific and the Central Pacific had been built as strategic national measures backed by the United States Treasury; but why the Southern Pacific? Why the Santa Fé? No one had yet dreamed of the citrus fruits which to-day make up such a big total of Southern freight. Much less had any dreamer foreseen the great gush of oil adding to traffic. The great discoveries of precious metals in Colorado had not yet taken place to stampede another mining rush across the desert. Indians practiced irrigation; but there was not a white man living who had guessed or would have believed that irrigation would yet transform this desert into a garden.

Emerson says something to the effect that every great institution is the enlarged figure of a great man in the past, a man who had vision and the faith in his vision to go ahead and *stick* through thick and thin.

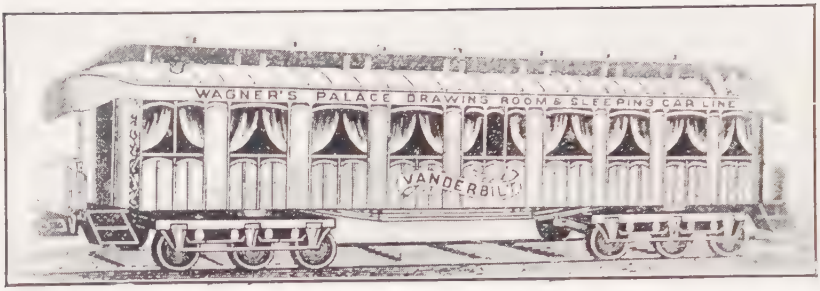
Such a man was Cyrus K. Holliday, the Father of the Santa Fé. Like Jay Gould, he was a Down East man born in 1826, ten years before Gould. It was Gould's ill fortune to have burned out his life before

he reached a constructive stage. It was Holliday's good fortune that his life always stood for constructive forces and that he lived to see his dreams come true, though for ten years the people he was to benefit most called him in their rough Western vernacular "that blank old fool." Holliday came from Carlisle, Pennsylvania. He studied law and succeeded in putting across a railroad charter which netted him a profit of twenty thousand dollars; but, like Gould, he had the vision to foresee that it was the lure of traffic from the West that was drawing the New York Central and the Erie to the Great Lakes and the Ohio. Why not strike with his little stake for the real Far West? So he headed for the jumping-off place to the No Man's Land — now Kansas. That took some nerve and daring; for Kansas was passing through all the throes of roughscuff fights between the free state party and the slave partisans backed by such bandits as later perpetrated the awful Lawrence Massacre. The overland rush still persisted to Oregon and California; and the opening of the Southwest after the Mexican War sent population jumping from five thousand Americans in 1850 to eighty thousand by 1860; but the two essential factors that drew Holliday to Kansas were the two that are basically below all permanent rail prosperity — the shortest distance to tidewater and perennial, not transient, traffic. The Union-Central Pacific systems struck across the broadest land belt for national reasons — the middle of the Western States. As you go farther south, the distance to the Pacific or to the Gulf is shorter

because the continent is shaped like a great pear — narrowing towards the bottom. Mines may yield a boom traffic but it passes as the veins peter out. Traffic from good farm lands lasts forever; but that rails rather than a land boom were in the back of his head you can infer from his own words, when he picked Topeka as the future capital of Kansas. Topeka was the Indian word for " good place to dig potatoes." Soil that will grow good potatoes will grow pretty nearly anything else in an equable climate; but Holliday's words are: " The selection of this location for a great city was not an accident. Here were a great river, plenty of water, above all the two great trails — to Santa Fé and to California — crossed at this point." Holliday was sure a great city must grow there and he staked his entire fortune on his judgment and no doubt added to his capital by becoming the head of the first land site company; but he was playing for a still larger stake — a long, hard pull — not the immediate Wall Street profits of the impatient lightning-quick Jay Gould.

The rail charter of what we now know as the Santa Fé, Holliday got in 1859; but the land grants did not come till five years later and were of no help. The railway had the land, but no cash. Not a New York capitalist would touch the road with tongs; for the Santa Fé had no Federal Treasury behind its bonds, like the Central and Union Pacific. What traffic could it possibly get? Buffalo bones. It would " create traffic," Holliday affirmed, by bringing settlers. Settlers? New York bankers laughed. Not till the Mid-

Tunnels of this sort obviate sharp curves on the modern railroads. Watchmen patrol every foot of the tunnel while the light signal indicates a clear way ahead.



From crude and ugly beginnings there has been a steady tendency toward simplicity, efficiency and beauty in the development of the modern railroad coach. This progress is sufficiently evident in these three pictures.

dle West was settled; and they were not lending money on eternity. They were lending on time. "You are going ahead of needs by a century, man," they told the enthusiastic young Holliday. "You can't hope to pay a dividend for many years. We daren't risk it."

Of course, the Civil War engulfed his hopes; but on the wall of his little frontier law office hung a map with mystic lines drawn from Atchison to Topeka and Topeka to Denver and California and Old Mexico. All who saw it laughed. They had to admit he was a fine successful business man but he was plainly queer on one hobby — steel rails. Holliday recalled what rails had done for Boston and New York and Philadelphia and, when the end of the Civil War sent disbanded soldiers pellmell into Kansas and the Southwest, no doubt conned over that old adage — He laughs best who laughs last. Nothing ever shook his faith one jot from 1868, when the first spade of earth was turned, to 1900, when he died in opulence and the full realization of all his dreams.

But his dreams did not come true by lying back and folding his hands and turning on the force pump of an abundant faith without effort to make his faith a fact. They did not. Con that well and follow the story. It explains why leaders always tower so immeasurably above followers and trailers and sideliners and vultures on the path of progress.

Holliday had to get more money for a beginning than he or his friends in Topeka could raise; so he set out to get support for county bonds by house-to-

house canvass, just as Philadelphia citizens had gone from house to house to launch the great Pennsylvania Railroad. He got bonds up to twenty-five thousand dollars guaranteed, and with that guarantee hied him to Cincinnati. Now there were peculiar reasons why Cincinnati might take a long chance on new transportation ventures. River traffic had jumped Cincinnati from mud flats to a town. Rail traffic had forced it to the status of a city — and all in less than twenty-five years. A Cincinnati firm from which Dodge City takes its name undertook to sell those bonds and sent T. J. Peter to look over this Kansas proposition. Peter became a whirlwind of enthusiasm for Kansas rails. Westward Ho! But there was a risk even in this Cincinnati firm's undertaking. It was to sell securities as fast as possible. That meant the control of the road might get out of the founders' hands. It almost meant that in hard times the securities might fall so low as to shake confidence in the road. Both these risks did come back on the Santa Fé in 1873 and 1893.

Let it be put down here beside the slim sale of bonds, each of the first thirteen founders put up four thousand dollars cash of the million and a half capital specified by the first charter. This sounds ridiculous in view of the Santa Fé's present assets; but you must keep in mind that if you have only twenty thousand dollars in all the world, one-fifth of it in a venture that could not possibly pay a dividend for ten years is a large gamble. As the line expanded from five miles to twelve and twelve to sixty-nine and sixty-nine to four hundred, little towns guaranteeing more bonds

made possible construction without padding construction accounts by payment of bonds and stock to the contractors.

Here is shown Cyrus Holliday's great superiority as a rail man over Jay Gould, who had now transferred his activities to the Southwestern field. Holliday had the most uncanny prescience in picking for himself fine associates, just as Jay Gould had the uncanny misfortune to draw to himself either scamps or incompetents. Peter neither smoked nor drank, but it is pretty well acknowledged he could swear in every language known. His manners might have given Jay Gould or Daniel Drew apoplexy; but he was dynamic, not static; direct, not furtive; and he may have blown off steam and nerve in hot words where Jay Gould took to flowers and literature for rest and the Wall Street gamble in securities for quick profits as vent for his tremendous driving power. As for pious old Drew, Jay's evil genius, pious platitudes, quids of tobacco, and marked dice which disturbed not his conscience a whit — seemed his tragic and only safety valves. Robinson, the Santa Fé's early construction engineer; Strong, a later president; Ripley, one of the latest presidents — every one was a self-made man from shirt-sleeves up, and more than that, without a peer in his own field. Compare these to the associates whom Gould had forced on him or chose rashly in his haste for quick profits; and you have largely the key to the success of one and the failure of the other. It goes right back to the one factor — the man at the pilot wheel of the system.

Only some twenty Topeka citizens came out to see the first spadeful of earth turned in November, 1868, from which the great Santa Fé was to grow. Holliday mounted the pile of earth and predicted the railroad would reach Santa Fé. The little group giggled. That was really too much — across an arid desert to Santa Fé. When the grading did get out five miles, and Holliday predicted the " dinky little streak of rusty steel " would go beyond Santa Fé, the crowd " booed " and " howled." Holliday simply had a screw loose; that was all. But when rails were laid and his dinky little line ran twelve miles out with " a wheezy engine and a few freight cars rigged up with seats and a passenger car borrowed " for the occasion, Colonel Holliday's boiled shirt swelled out as he crossed his arms with the ecstatic prophecy: " Fellow citizens, imagine, if you please, my right hand as Chicago, my left as St. Louis. Eventually the railroad we contemplate will reach these two cities and crossing at Topeka the intersection of my arms, will extend to Galveston, the City of Mexico and San Francisco. The coming tides of immigration will flow along these lines of railway and like an ocean wave will advance up the sides of the Rockies and dash their foaming crests down upon the Pacific slope."

A good deal of Rocky Mountain dew or what we now call " white mule " had drifted out among the cowboy onlookers and frontiersmen. Anyway, it had a mule's kick to it; and when Holliday reached his grand climax, one hearer just threw himself down on the ground, kicked up his heels and yelled, " The

damned old fool." It was enough to make a mule bray or a jackass honk; and the mob did both. You see it couldn't possibly be done! What did he take them for — fools? Pshaw! It was the supreme joke of the day. Yet Holliday lived to see that road go over the desert to Santa Fé, up the mountain passes that couldn't be traversed to Denver, down to the Gulf, east to Chicago, west to the Pacific. That is the kind of faith that removes mountains. Holliday also lived to see that same sceptic become an agent for what was one branch of his own line and the mayor of Topeka — which Holliday had founded.

There is no use in setting down the mileage of the Santa Fé; for with present plans for consolidation in the air, it may be twice its present length in a few years; but Holliday lived to see his twelve miles of road grow to twelve thousand and its first quarter of a million bonds guaranteed by a small county expand to assets of over a billion. If his dauntless spirit can look back to mundane affairs in the year 1928, he can see stock which was kicked about in a receivership at eight to nine dollars a share selling at close to two hundred on sheer earning power. Are we, or are we not, tools in the hands of a Divine Destiny? Each must answer for himself.

But to go back to the story of how the tools, good and bad, conscious and unconscious, willy-nilly, worked out that Destiny — it wasn't by sitting still with wishing instead of doing, with the jawbone of an ass instead of the backbone of a man.

By the time the Santa Fé reached Emporia in

1870, it was running two passenger trains daily in each direction at the appalling speed of eighteen miles an hour. And was Emporia proud? Was it? If you had been a pioneer on the frontier for ten years looking for a steam flag, how would you have felt even if the flag blew to the breeze from a wheezy little engine drawing rickety cars over a jolting roadbed? And the roadbed did jolt. It swayed the cars on curves like a rocking horse; for economy compelled inexpensive cars and light grading. I fancy your heart and your hopes would have jumped as crazily as the drunken cars. At Dodge City, by 1872, one of those amazing and unexpected windfalls of luck that come to the dauntless helped the struggling Santa Fé. Hitherto, Southern cattle ranchers, as the pastures dried in the hotter sun of advancing summer, had yearly followed the Long Horn Trail north with the seasons — then marketed as they could, east or west, easy when the Civil War was waging, harder now almost in the crash of '73 when values took an awful slump. The Santa Fé, with its freight cars increased to several hundreds and its engines to thirty or forty, came to the rescue and could carry those cattle out to Eastern markets. Dodge City was the great cattle town. The Santa Fé now got a more lucrative freight than buffalo hides and bones. The long mooing stock cars, which you still meet eastbound on the Santa Fé, in 1872 and '73 yielded the railroad a neat half million of unexpected profits and did much to save the road from the awful financial smashes that engulfed half the rails in the United States in that black era

of disaster. Anyway, it could hustle on with its grading and building to the state line of Kansas and get its land grant of three million acres within the time limit of its charter. Once these land grants could be patented, even in the appalling year of '73, the road could float three and a half millions in bonds and get the cash to go on building to the Pacific. How had they the courage? They could have stopped right there and then, sold their stock, sold their bonds, and retired on what would have been at that time opulent wealth. Why didn't they? It was what Jay Gould did. It was what many promoters of the West did — scuttle the sinking ship and let the ignorant horde of securities buyers drown.

As a great deal has been written about those land grants to the Santa Fé, perhaps their story should be completed here. They could bond the railroad for three and a half million dollars more cash, because they now had land assets; but what to do with those land assets! You couldn't sell an acre of land in Kansas at that time for ten cents. You couldn't give it away for taxes. Everyone was land poor and land swamped; so the Santa Fé took another wild jump off the deep end into the unknown. At that time there was in Russia a religious sect of thrifty farmers terribly oppressed by military pogroms. These Mennonites were pacifists. They had gold saved — lots of it — hidden away in chests buried in the ground. They lived in sod houses. They were used to the warm climate of Southern Russia. They were thrifty, splendid farmers, rough in appearance, tough in fiber, stub-

born and ignorant and tenacious in religious prejudice; but good stuff for arable lands. The Santa Fé sent agents to Russia. Interpreters interviewed bishops. Speeches were made in schools and churches. Men went from door to door explaining about the new land of freedom to worship as men chose. More than fifteen thousand Mennonities with two and a half million dollars' real gold — a third as much as the new bonds on the Santa Fé — moved to Kansas and bought the land at from five to ten dollars an acre with five to ten years to pay. The Santa Fé figured it would pay better to get traffic from those Mennonite farms, year after year, from settlers unembarrassed because of a good foot-free start, than to take all the settlers' first gold in a sale of the land and then leave him to flounder in debt for stock, or sink in years of low prices and other years of scant crops. The Union Pacific had been an *empire binder*. The Santa Fé became an *empire builder*. Henceforth, lecturers were kept in Europe. Agents were stationed at all points of debarkation to keep the emigrant from being fleeced by sleek exchange brokers or steamship runners. Agents welcomed the colonists to American shores, bought their tickets westward, accompanied them to the new land, and saw they were not cheated by land sharks or huddled in the cities for cheap labor. The government of Kansas welcomed them. They were not kicked in the face and told to get out because they were queer. They were shepherded to their new homes and given a good start. Editors' excursions became a new feature across the prairies. In a few years,

more than sixty thousand European immigrants had settled on the vacant lands of what are now Kansas, Oklahoma, Colorado. A third of the land grant east of Dodge City had been sold by 1880; and the Santa Fé had reckoned true. The settlers did create traffic to compensate outlay a hundredfold. They also brought with them new types of dry land wheats — Turkeys and Durums — which defied rust and drought. Colonizing ceased after 1886. Over and above costs, the Santa Fé cleared on its land grants exactly one dollar an acre. I can't see that as a very great steal from the public domain, much ink spilled to the contrary. Was there a town of over five thousand along the line that didn't clear more from the settlers brought in? I am neither condemning nor defending land grants. I am merely trying to get facts which are not controversial; and anyone who wants the exact figures can get them from Santa Fé reports up to the receivership of 1893, or from a dozen books dealing with land grants.

Of course, the Santa Fé benefited by far more than this on the freight sent out by the colonists. The great problem of the roads was to get a westbound traffic to fill the empties. This, the Santa Fé got in lumber shipped in from the South Middle East to build barns and houses for the settlers and later in wire for the fencing and coal for fuel and then, as the farmers prospered, in implements and manufactured goods for the farm buyer.

Perhaps the greatest mistake the Santa Fé made in this era was in another amazing streak of good

luck. Just as the gold rush to California subsided to the humdrum there came the great silver discoveries up in Colorado. The Santa Fé — if you will look at your map, you will see — had gone in south of Denver. It was now tempted to push up the Arkansas Canyon for a share of the new traffic. It triumphed in its aim, but its triumph acted as a boomerang that came back on its head in '93. First, it had to fight what is now the Denver and Rio Grande, then and until recent years, a Gould Line; and Gould was an ugly customer in a fight. It meant rate slashing below any possible cost of carrying freight. It meant buying securities of other lines to block them off; and many of them proved so worthless, one of President Ripley's first acts on taking hold of the demoralized system after the receivership of 1893, was to cut from the Santa Fé every unprofitable parasite line and sell it for whatever he could get, or trade it for a better connection.

But worst of all, this move brought about what is known as the famous "Canyon War." There is no use pretending that either the Santa Fé or its rivals stayed within the limits of the law in this war. They did not. The fight kept state and Federal courts busy giving and revising decisions and appeals with an enormous bill of costs to both sides and an enormous enriching of attorneys by prolonging the court contests; but no public scandal, not a breath of bribing legislatures and herding voters in droves, as in the Erie and Crédit Mobilier follies. But out on the field it was one of the wildest rough and tumble scrim-

mages in a lawless period. Here is the story in brief.

Reference has been made to Holliday's uncanny prescience in picking men for the Santa Fé. Albert Robinson, his construction engineer, was another example. He was the great builder of the Santa Fé, and later of the Mexican Central Railroad. He was more than that. He was one of the first engineers in the United States to encourage the use of oil burners on locomotives, without which some of the most famous oil wells in both Mexico and the United States could never have been developed; for they were oils much higher in fuel than in illuminating qualities. Under Robinson the famous Canyon Fight took place. Like Dodge, on the Union Pacific, whom he had to fight in this Canyon War, Robinson was a Vermont boy and had come up by the shirt-sleeve route. His father died when the boy was very young, and from his tenth year Albert was the mainstay of his family. In his twelfth year, his mother married again and the family moved to Wisconsin; but the second husband was frail, and again the main burden fell on the boy. Clearing timber slashings, clerking, hiring out to neighboring farmers, keeping books for little pioneer shops, he sledded along the hard uphill road to success by the old-fashioned method of work. It used to be a joke of Robinson's early youth that his first wages as farmhand were a " fat hog " and he had " to drive his salary home with a rope tied to its hind leg "; so he should have been amply schooled for the Canyon Fight. By the time he had

the Wisconsin homestead so it would support his mother's family, he had saved the colossal capital of $175 and with that he proceeded to Ann Arbor, where he took his degree in civil engineering science at the age of twenty-five. His first railroading jobs were in Colorado as axe man, chain man, engineer, then civil engineer; in his twenty-seventh year Peter discovered and took him on the Santa Fé. This was in the period when Holliday used to spout his predictions of a great line to the Pacific amid the "boos" of a good-natured, amused audience. I have given this briefest sketch of Robinson's career because so many people to-day still cling to the fallacy that it takes "pull" to get up life's ladder; whereas success in railroading proves it isn't "pull." It is courage and work and brains — doing things in the day's job better than other men do them, daunted by nothing, going ahead and letting results do the bragging. How Robinson got the Santa Fé in a series of the most daring switchbacks over the Raton Mountain down to Las Vegas, New Mexico, and then westward to Arizona, would fill a book. Always he made friends with local towns by running his line through them, instead of coining money for his line by laying out new town sites and compelling the old towns to move. To this there were only two exceptions — old Santa Fé and what is now Albuquerque. Old Santa Fé was not skipped because the town refused to vote bonds in assistance — as many people yet believe. It was the company's wish in its first survey to put Santa Fé on the main line; but in the late seventies, with the

country just struggling up from the crash of '73, it was found too expensive to detour the mountains in an almost complete circle off the main line to get in and out of Santa Fé; but to compensate a little branch line was run up from Lamy to Santa Fé, and for this branch line the county did vote one hundred and fifty thousand dollars worth of bonds. Albuquerque was an example of exactly the opposite tactics. Robinson's survey had put Bernalillo on the main line in 1878 as one of the great divisional points west to the Pacific and south to Old Mexico, Texas, and the Gulf. All the old Mexican ranches but one had granted the railroad right of way on reasonable terms. Old Don José Leandro Perea either didn't see what newfangled rails were going to do for sheep men or he gambled on one ranch holding out for a fancy price. He asked four hundred fifty dollars an acre for what other ranchers had sold at two to three dollars or granted free, and he lived to see his native town decline while the new city of Albuquerque was born from his stubborn folly. I don't know whether the old Don counted on young Robinson entering on an endless palaver; but Robinson's masked face gave no sign; and Albuquerque became the financial center of the new territory.

Remember Jay Gould had transferred his tireless activities to what is now the Rio Grande area; and the Rio Grande didn't particularly want to see the Santa Fé get over Raton Mountain into what the Rio Grande might yet need for its own stamping ground, a Missouri-Pacific line. On the very train which

Robinson took in 1878 to look over Raton Pass was the engineer of the Denver and Rio Grande also bound to look over the pass to the south for his line. At a way station, the Denver and Rio Grande man got off to get a night's rest. Robinson hired a team, a buckboard, and with shovels and firearms and a few men drove ahead to the foot of the pass. At four o'clock in the February morning, by the help of lantern light, he put his gang to work just where you now enter the Raton Tunnel, which has replaced the first switchbacks. It is said that old frontiersmen keeping little lodging houses for passing travelers, for the fun of the thing or perhaps itching for a real good old-time rough and tumble scrap, shouldered picks and spades and joined the gang. When the Denver and Rio Grande gang came along leisurely at nine A.M. under their engineer, behold rail graders for the Santa Fé were already in possession and at work like beavers too intent to be interrupted. Behold also, the Santa Fé men were armed — it might be for mountain game; but then, it might not. Being good fellows, the Denver and Rio Grande gang retired, and the engineer covered his retreat by the explanation that he was on his way to the Chicken Creek Pass to the west. If he was — it was a wild goose chase; for Robinson knew it couldn't be used.

But when it became noised about that the Santa Fé were not only going south to the Pacific but actually had the temerity to plan invading Central Colorado — the Denver and Rio Grande's own peculiar territory now promising enormous returns in a mining boom

— fireworks broke loose; and this time they were real fireworks. The Canyon War was on. Robinson had examined the Royal Gorge years ago. The Santa Fé didn't want it then, but it did now. There is no use in following the legal seesaw. As Vanderbilt said long before, the law is slow. After decisions and reverses, the Supreme Court finally said no pass could be occupied to the exclusion of other carriers; so Robinson's quick judgment in '78 and '79 was a true instinct. He would take it for the Santa Fé, lay his rails where it was easiest and let rivals take what was left. Then the courts could decide.

Now we shift to the Royal Gorge to see what happened. By team from Canyon City to the mines, one hundred twenty miles, cost the same as to ship the same goods by rail to New York. The rate was four cents a pound. The only route up the gorge was by the headwaters of the Arkansas, which are now the delight of the summer tourist sitting in the observation car, watching the dizzy whirl of sky-colored foam and rapids between precipices thirty-five hundred feet high straight as a wall and from side to side only thirty feet in some places. Robinson was on his way to the Pacific Coast with the Raton Pass victory behind him, when in April he got a telegram to go back up to Colorado and take possession of the gorge. Other engineers would connect with him. Morley, another engineer in charge in Colorado, had got out on the ground to Pueblo, when he learned that a big force of Denver and Rio Grande men were on the way west on a night train to beat the Santa

Fé. Now remember, the local points were all in sympathy with the Santa Fé. It was midnight in Pueblo and the dance hall in full swing; but only Denver and Rio Grande trains led up far as Canyon City. Morley got out quick, hired a team and started on a wild race for Canyon City before the Denver and Rio Grande train could come in. If you know what the wild gorge looks like by day, you can guess what it was in a midnight race. Across the stream, up the stream, along the river bed, raced the team. The sun came up when the Santa Fé team was three miles from Canyon City and far behind the Santa Fé man could hear the Denver and Rio Grande engine hooting as it rounded the sharp curves carefully, all unconscious the team had won the race and Morley, the Santa Fé engineer, had got almost to Canyon City first. Grabbing a spade stamped D.&R.G., mounting a pony, the Santa Fé engineer rode on like the wind and went two miles beyond Canyon City. The other twenty Santa Fé men came on with picks and spades and the usual frontier firearms over shoulders or in belts — but all were uncased and loaded. Then up came the Denver and Rio Grande gangs, having poured out of the train two hundred strong. The Santa Fé men were at work. The Denver and Rio Grande hooted with laughter — twenty against two hundred! But the twenty had possession. They also had the guns. This meant shooting and shooting quick. The Denver and Rio Grande were hard up financially — very. They backed off from an immediate fight and carried their case to the courts, and meanwhile laid a grade on the

other side of the river — which can still be picked out.

While the courts were seesawing, each company kept its workers on opposite banks of the river camped in adobe and timber shanties; and there is no doubt the roughscuff rabble enjoyed the exciting adventure; for those were not dry days, nor were the men a Sunday-school class. Once when Morley was in Canyon City, he found a shipment of firearms had come in for the Denver and Rio Grande. The express man was a friend of Morley's and something happened to those guns so the triggers wouldn't " trig." Then Morley got some guns for his own men from local merchants. Another time when a train load of four hundred cowboys had been sent in to Robinson from Dodge City at three dollars a day and had had perhaps too much Rocky Mountain dew, they surrounded Robinson's pay car and demanded five dollars a day for the week that had passed, or — well, or anything. They would go over to the Denver and Rio Grande crowd across the river, or they might use the argument of two ties strung across the roof of two box cars with a noosed rope below it, or — Robinson paid wages in cash from a little adobe shack he used as office. He went out, and facing the mob told them he would pay them exactly what he had pledged, not a cent more, to come in one by one in line and get their cash. He was then thirty-five years old. Robinson and a bank cashier sat behind a table with a pistol to the right and a pistol to the left hand of each man. As a result of the Santa Fé's victory,

Denver and Rio Grande stock had fallen in value to 16 on the open market. By the time the Supreme Court handed down its decision that no road could exclude another road from a pass, the Santa Fé had bought up its stock and were in control. Jay Gould had shed his bad investment as he always did in time to escape the receivership that swamped the Rio Grande and was concentrating on what we now know as the Missouri Pacific and the Southern Pacific, to strike a more vital blow at the Santa Fé by capturing their Gulf and Pacific traffic by shorter lines. A dozen episodes of this famous and infamous fight could be told. State troops were called out. A cannon was once trundled to the scene of action. Engines were crippled by unseen hands. Deputies and sheriffs paraded the gorge with pistols in their high boots and bullets in their belts; but more than one minion of the law found himself locked in an express car, while wires were tapped to ascertain if a new court decision would uphold more action and less bluster. Novels and plays could be written around the two eventful years. Looking back now, we can call it sheer vaudeville, but it caused a terrific turmoil and cost the contending lines not less than half a million each. Anyway, the Santa Fé got its line within shipping distance of the new mine at Leadville and that is what it wanted.

Of course, the victory proved a boomerang, as such victories usually do. The story is too long to tell, how the Santa Fé finally got into Chicago, on to Old Mexico, and down to the Gulf of Mexico, and across the Mojave Desert to Los Angeles and the Pacific;

but when the Santa Fé fell into receivers' hands in 1893 and its stocks dropped to 8 and 9, the first thing Mr. Ripley did on taking hold of the reorganized line in '96 was to shed or trade all its nonproductive feeders and laterals for revenue producers. Among the lines discarded went the Denver and Rio Grande, to this day half owned by Gould's old venture, the rejuvenated Missouri Pacific.

It is asked how such a line proceeding so carefully and now so enormously rich could crash into a receivership. The answer can be given very tersely. The Santa Fé was built too fast. It thought it had to go ahead to anticipate rivals, and it had; but quick building meant repairs, replacement, rebuilding, regrading, just at a period when the whole country was in rail convulsions from too much building for promoters' profits and too little with a view to revenue returns. Capital could not be borrowed to bridge over the hard times. The Santa Fé could not borrow to meet interest on bonds. Loans were called in panic fear. Though Gould had died just at the end of the year 1892, his Missouri and Southern lines had struck a terribly vital blow at Santa Fé revenues. What with rate slashings, he had cut returns below costs of operating. Then, just at the period when Holliday had counted on his colonists being in prosperous estate to put his line on a solid and permanent basis, came the final blow — the grasshopper plague and that cycle of drought which seems to strike some section in the world periodically. The Santa Fé had to carry out thousands of colonists free of charge to avert

starvation. It had to convey in thousands of pounds of provisions free for settlers who stuck and would have perished, or abandoned the Southwest without help. These are things that do not go in financial statements nor get much credit, but they explain receiverships. They do not go into financial reports because they would hurt the road; but it is to be hoped they go in the reports of a Higher Record; for they are human documents — very human, but always untold in documents.

Of course, the Santa Fé came back to prosperity swiftly and surely — as the dry cycle passed and universal irrigation in the Southwest forefended against such disaster in the future. Citrus fruits and oil became great revenue channels to every eastbound road. The leap of the Pacific Coast to prosperity provided westbound traffic. The stampede of another back-to-the-land boom with all its follies and prosperities in the early twentieth century again restored cattle traffic to the new Eldorado of the Northwest and again sent lumber shipments trundling to the Western prairies. Then tourist travel to a genial winter climate capped the climax. On *not one* of these factors had the first founders of the Santa Fé counted; but they came.

If it is asked how a road whose track values, stock, and bonds total only something over six hundred millions, can be selling at a market price of almost two hundred dollars a share, again the answer is very simple. As the Santa Fé under President Ripley worked back to solid ground, it was able to buy

cheaply many securities that would be of value as feeder lines, terminals, connecting links, as less well-managed lines fell under the auction hammer or their stock depreciated on the open market. That is what is meant by the hackneyed expression " plowing profits back into the line," but it is done only by withholding those profits temporarily from investors, who see their shares go up in value and can sell if they so desire. Whether any law can compel such lines to take into their family nestling lines which are not profit makers is one of the things that must be determined in our own day.

People talk of rails as " heartless, soulless corporations "; but are they? Isn't each line the reflex of countless nameless workers in its ranks and of the big men at its head?

Once when Mr. Ripley was asked the secret of the Santa Fé's swift return to success, he answered simply " work " — the day's job well done — the co-operation of every man and woman in the rank and file.

And once when a great dinner was held in Chicago to celebrate his seventieth birthday, he paused, as glasses were raised to his health, and said:

" Before proceeding I desire to pay tribute and praise to her who forty-four years ago joined her fortunes to mine and who ever since has provided the comforts and rest of a quiet home; who twice has accompanied me through the shadow of death; who has watched over me mentally, morally and physically; and who is mainly responsible for such success

as I have had in conserving mind and body. I ask you, friends, to join in drinking to the health of my wife."

Then as the shadow of crossing the Last Great Divide came very near in 1920, he penned these words:

"This is the sunset glow. The shadows will soon begin to lengthen and the road grow more dim; but, if I have lived to win the approbation of my contemporaries and to be of benefit to those with whom I have been associated, I can look with complacency on the signs of the closing day and go to my rest content."

There let the sunset drop on another of the great rail adventurers of the century.

What new era will the next sunrise reveal? Who can predict?

The past has discounted the wildest dream of the wildest fool. We only know that a free people, with the greatest individual liberty any people have ever enjoyed in the records of the human race, have never once been laggards in meeting Destiny halfway. The past has left us with a heritage of lessons from that past and of hopes for the future.

Chapter XXV

The Crash Of '73 And The Northern Pacific. 1856–1880

AGAIN I see the Northwest as I first saw it. It was in the middle eighties. I was a very small child — in fact, in white pinafore, skirts sticking out like a canterbury bell upside down, leghorn hat tied under the chin and a garland of roses round the crown. Perhaps it is as well I was a child when I first saw the Northwest. Childhood impressions are truer than grown-up generalities. We crossed Lake Michigan on a ferry and changed to a St. Paul sleeper to go to St. Paul. The sleeper was primitive. No spacious wash rooms for little folk with dirty faces, but square cubbyholes where we could get soused off in cold water before we reached St. Paul. The tide of colonists to Minnesota and the Dakotas was in full swing. On changing at St. Paul, there was such a mob of people that baggage rooms and freight sheds could not contain the piles of trunks and carpetbags and what not that poured out of our train, till the platform resembled a pyramid. The throngs were so much greater than the trains could handle that we had to change from sleepers to first-class plush-seated cars, with little doilies that had once been white as head rests. At the Manitoba boundary, we had to change again to cars which had no plush seats and were cramped to standing room. There was such a delay coupling up extra cars at St. Paul that we had time to wander through the town. Rain had fallen the night before and we ran ahead

of elders on a two-plank sidewalk, where the frost had loosened nails. When we stepped on one end, the other end of the plank bounced up to the detriment of those stiff-starched white dresses. The mud was slippery as grease; but there were no casualties in the sudden sittings down. A softer glue for pillow never received small folks in its loving embrace. The real estate agents said it was proof of the soil's rich qualities. It was. We came back with lots of that rich real estate on our skirts and enough on our boots to anchor runaway feet.

Whether, beyond the boundary, coaling stations were short and the engine had to stoke up with cordwood, or the watering tanks were not yet numerous enough and we paused for the old engine, with smoke stack like an overturned plug hat, to get an extra drink, I don't recall. I do know that from the boundary on north, the smoke came back in clouds on big leghorn hats poked out of the unscreened windows, their wearers anchored to rear by the hands of elders hanging on to heels. I also know we were delayed for an hour or two at a time on the bare naked spring prairies where the crowded cars poured out the cramped passengers to wander in fields that were such a wonder world as you can see nowhere in North America to-day except Peace River. The prairie roses scented the rain-washed air. We brought them back to the train in armfuls. The tiger lilies stood higher than our leghorn hats and were of a gorgeous Turkey red spotted with black velvet that resembled black butterflies against the sun. The windflowers tossed

fairylike tresses to the breeze. We children went absolutely mad. The poor wheezy engine had to toot its head off to get travelers back to cars; and what an amazing conglomeration of passengers: brides and grooms cuddling up in narrow seats that gave excuse; families from babies in arms to husky boys and girls in teens; youngsters with down for beards and deep gruff voices discussing how their parents had trekked to Ohio, Illinois, Wisconsin, Michigan, and "got in on the ground floor" and made fortunes just sitting on land, and here was the same fortune at the end of our rainbow trail; scamps, swindlers, pickpockets, missionaries, teachers, preachers, frail office hands with pasty faces, about as fit as the babies in arms to cope with the hardships between them and the rainbow; but no old folks — not one. It was a land of youth for youth.

That was the amazing thing the first years we resided in the West. Except among the retired fur traders, you hardly ever saw a gray head. The churches were jammed with young couples and prolific families. To the Sunday schools came many an urchin in a galloping dog sleigh, which compelled sedate elders to scamper from the walks to a snowdrift. Those sled dogs were a curse in summer till a city pound netted them for taxes and coined delinquents into fur coats. They got my own dog twice by prying off the tax, when he was sent out to a ranch where I believe he ended life in an Indian stew.

As we crossed Red River to Winnipeg, we were lifted up and poked halfway out the windows to see

one of the first bridges to span the great river, the highway of the fur trade for almost two hundred years. There was an interesting fact about that bridge. On it worked a young man at a dollar and a half a day and a contractor later to become famous. Though both were our near neighbors a few years later — where one of the world's greatest department stores now stands — we didn't know enough of what was going on under our eyes to realize the significance of their names. One was Sir Dan Mann, the other was Sir William Mackenzie — the fathers of the modern Canadian Nationals. On the outskirts of the city, now occupied by fine residences, lay a farm with a little piazza-encircled cottage, which didn't represent much farming. It was chiefly famous to youngsters as the rendezvous of a buffalo herd more or less tame — chiefly less; for in the roundup of buffalo for winter feeding, ponies were often tossed and killed by the vicious old bulls thrusting horns in the soft flank behind the saddle. On that farm, for part of each year, lived the Canadian Governor of the Hudson's Bay Company. His name was Donald Smith, later Lord Strathcona. Often there came to visit him a Norman Kittson of St. Paul, also a fur trader, a George Stephen, later Lord Mount Stephen of the Bank of Montreal, a Mr. James J. Hill, who had run river boats down the Red River from St. Paul to Fort Garry (Winnipeg). Again we didn't realize the significance of those names. They were respectively the fathers of two other great transcontinental rail systems — the Great Northern and the Canadian

Pacific. It was prior to this era that Mr. Hill and George Stephen and Donald Smith took a wagon trip from St. Paul to the Canadian border. Donald Smith and George Stephen were being urged to " back " a railroad from St. Paul to connect up with what had now become a certainty — the Canadian Pacific. Smith had charge of the pension fund of the Hudson's Bay Company to be placed in good investments at his discretion; but would the Hill venture be discretion? Stephen was still a Montreal merchant but he was also a director of the Montreal Bank, then the strongest moneyed institution in Canada; and his mind was in doubt. Could such a road unbacked by the American government, when the Canadian Pacific was backed by the Canadian government, ever be made to pay? Kittson and Hill were sure it could. On that trip went a great Catholic prelate, Archbishop Ireland. Legend has it the democrat, or buckboard or what ever it was, had to draw aside for the settlers' tented wagons streaming in a continual caravan for the western sections of Minnesota and the eastern sections of Dakota. What were they after? Just what the husky young " old " heads had said in our own train — " to get in on the ground floor " with their families ahead of the railroad and reap the increase in values bound to result from rails, as such values had increased from Chicago to St. Paul and Omaha. The observers sat very silent. Hill was too wise to urge. He knew these moneyed men were now at the point where facts alone would turn the scale and arguments might be mistaken for desires. Archbishop

Ireland spoke first. "Yes," he said, "churches and schools must keep abreast these caravans. These people have their families. They mean to stick, not flock in, grab profits and flit out." Stephen looked up with that sharp glance which his associates knew so well meant a quick decision. At that moment, Hill knew he had won life confederates, who never failed him, though the charters of the two great rail systems kept them separate lines. Smith needed no persuading. He knew every foot of the country from Montreal to the Rockies, by pack train, canoe, and dog train. Two other very great names in those curiously portentous times! On the outskirts of North Winnipeg was an almost terribly efficient young Irish American, in charge of supplies and stores for the construction of the western sections of the Canadian Pacific. When one recalls the awful waste and overcharges in construction accounts for the Central and the Union Pacific, the importance of this young Irish American's job can be realized. Not a pound of supplies from nails to hams slipped past his scrutiny in waste. His name was Shaughnessy. In the city, off and on, was another eccentric roly-poly but quietly poised and powerful construction boss and section manager for the Canadian Pacific. His name was Van Horn. I don't know why we children were not taught the meaning of what was going on under unseeing eyes, rather than dates and names from the past with which we were stuffed and could recite by rote like parrots. I recall we were yearly lined up in gala attire and marched to Government House to have

our heads duly patted " as good little girls and boys " by governors-general sent out from England. I know for a fact that not once from my tenth year to my sixteenth was one of those true empire builders, who lived among us, ever asked to come and address us children on what he was trying to do. Had they done so, many a bitter fight when schoolboys came to voting age might have been averted. Better know the signs of our own times than the geography of Cathay, or the names and dates of Saxon kings, which I can string off yet down to the Norman Conquest.

No use setting down what the figures of population were for those days. No two historians agree on the figures — and for the best of reasons. The figures didn't stay put. They were up one year and down the next like the crest and trough of advancing waves. Immediately the Canadian Pacific began to build west, a hundred thousand floaters had tumbled pell-mell into Manitoba. Winnipeg was then three-quarters a tent city, and every second tent was either a restaurant or a real estate office. Then the boom collapsed and the population fell to somewhere between twenty thousand and ten thousand. Minnesota, on the other hand, had suffered from the crash of '73 and the Sioux massacres, which took toll of two thousand lives and sent settlers out in droves. By the eighties another rush of settlers had set in, which did not culminate till '93. The best figures I know are from President Folwell of Minnesota University and he gives them with great reservations. When the 1873 crash came and Governor Austin threatened the rail-

roads, that he would "take those robbers by the neck and shake them over the furnaces of hell" — (poor things, they were already sizzling over the furnaces of that hot pot) — Folwell puts the population at anywhere from one hundred seventy-five to four hundred thousand from Lake Superior to the Dakotas, but that population fluctuated. When Indian massacres swept these areas, populations went down. When Indian massacres ceased, populations went up.

With such populations, why in the world were Minnesota and the Dakotas so backward in seeking statehood? Because in territories taxation was light. Colonists didn't preëmpt. They sat down as "squatters," whose rights were subsequently respected; but territories couldn't get land grants. States could; and with land grants came rails; and with rails came the rush of people. Without rails, settlers had to confine themselves to wooded river banks for firewood. With rails, they could spread far afield and use soft or hard coal as they could afford the price. They could also get their produce out to market. It is almost ludicrous to have to record the first heaviest freight on the Canadian Pacific eastbound was buffalo bones, hides, furs. The first heaviest freight of the American rails was the same, plus yearly growing quantities of wheat for the mills of Minneapolis. The westbound freight took care of itself. There were none of "the empties" trundling West, which are the worry in slump years to-day. Settlers' effects, dairy cattle to replace the rangy stuff from the South-

west's Long Horn Trail, manufactured goods for the newcomers, lumber for settlers' cabins to replace knock-up cabins and tar-papered shanties and sod shacks — chiefly from Eastern Manitoba for the Canadian Pacific, from Eastern Minnesota for the Dakotas — crammed every westbound box and flat car. "I never saw anything like it," Van Horn once told a group of us crossing the continent with him. "I wonder any of us went on. We could have quit then and there rich for life without a worry. The money was just oozing in."

"Why didn't you quit?" someone asked.

He laughed. "I think it was because we couldn't. The Eastern investor didn't realize. Our securities weren't rated worth more than thirty-nine to forty-five cents on the dollar and Hill's at highest, as I remember, at sixty-five cents. We couldn't quit and leave our investors in the lurch. We had to go on and spend all the money coming in on better cars, heavier engines, decent passenger coaches, replacement of trestles, steadier roadbeds, better curves. Ever traveled the roadbed in those days? Remember how often the trains were on schedule time?"

Most of us did remember because those occasions were so rare they were red-letter days. We had hooted ourselves hoarse when the first transcontinental crossed the plains. In a few years, though we didn't use quite such hotshot as the Governor of Minnesota in an election, we were hooting at monopoly in a fashion that sent rail securities to the bottom of a well. Before rails came to the Northwest, here is the

actual scale of prices as given by President Folwell for Minnesota and the Dakotas: apples, none at all, for the plains had to depend on wild berries, cranberries, and plums; rice, a dollar fifty a bushel; flour, fifty cents a pound; salt, one dollar a pound; pork, eighty cents; tea, four-fifty, or home brew from leaves with a seasoning of berries. St. Paul with three hundred people was known as Pig's Eye from the facial resemblance of a smuggler, who lived in a cave on the banks of the Mississippi and secretly plied his liquid wares to the soldiers of Fort Snelling. Meat was chiefly buffalo pemmican from half-breed hunters, who came in solid two-wheeled ox-drawn carts with their squaws and progeny sitting on the pemmican sacks. Those buffalo pemmican carts still screeched aloud to heaven through Winnipeg's muddy streets on ungreased wooden axles for five years after we went in by rail. I have one of the little sample pemmican bags in a French cabinet in my house to-day. We didn't like the smell any more than we liked the noise of vociferous drivers and screaming squaws and bawling children. That little pemmican bag smells yet. Every house-cleaning time I have to rescue it from the ignominy of the attic. It took fifteen days to go from St. Paul to Winnipeg. It takes a night now. When rails first came to St. Paul, squatters got out with clubs to tear up the rails till they learned their squatters' rights would be respected. This was about the time President Fillmore was jubilating on an excursion up the Erie Road. There were about one hundred

nineteen little steamers plying up and down the Mississippi as high water permitted and by 1857 they had brought to what was vaguely known as the West, one hundred and fifty thousand people; but those figures went up and down, as I have told. The land gamble was wild as Jay Gould's gambles on the Erie. Land bought at a dollar and a quarter one day sold the next day at two and a half, and the next at fifteen dollars an acre. It was easy money. "It seemed to drip from the skies," as Folwell says. Stores could not rush up fast enough to house goods from weather. Over twenty-five rail charters came from the press the first years of statehood — and died stillborn; for when settlers could "squat" and get land free, why buy it from land grant roads?

The Civil War did not materially hurt the Northwest. It helped. It sent prices soaring, for all the farmer could freight out to market or send down to Wisconsin where the expanding Chicago and North-Western and the Chicago, Minneapolis and St. Paul rushed supplies to the front. Neither did the collapse after the Civil War hurt the Northwest; for the Franco-Prussian War kept prices up; but when the Franco-Prussian War was over and prices came down so hard they bounced, another tune was sung. The speculators folded their tents like the Arabs and stole away. St. Paul's population went up and down like Winnipeg's, and the official census continued to lie like a gentleman and whistle like a boy scared in the dark. I don't think I am wrong in accepting wild guesses at the truth that it bumped down, for Winnipeg, very

close to between ten and twenty thousand; but it is only a wild guess.

There were scandalous land frauds, of course. When have there not been in wild land gambles? The Supreme Court counted as an Indian, fifty per cent Indian blood; and where the half-breed squatters got "scrip" for land, they sold their "scrip" both in Canada and in Minnesota at fifty cents to one dollar and fifty cents an acre. Many a timber limit, which proved a gold mine when another rush of settlement came, had passed into the hands of the great lumber barons, who coined their lumber into gold. There were not many governors of Minnesota or lieutenant-governors of Manitoba, who threatened "to shake the robber lumber barons above the furnaces of hell." Presumably, the lumber would burn too hot and might singe some of their best political friends.

To-day, Minnesota numbers two million, seven hundred thousand people; North Dakota, six hundred and fifty thousand; South Dakota, seven hundred thousand; Montana, five hundred and fifty thousand. Not twenty-five per cent of those people could exist without the rails.

How did the rails happen when as Van Horn confessed, "We could have quit then and there rich for life without a worry"? Was it a case again of Destiny? Was it like those old galvanic batteries in a circus? First you took hold and liked the sensation. Then you didn't and found you couldn't let go and squirmed.

"Here beginneth the first lesson" of rails in the

Northwest — to quote from the liturgy — with the awful crash of '73, which not only shook them above the place of the governor's pious wish but rocked the whole financial structure of the nation from New York to San Francisco. The story of the Northwest rails and the crash of '73 is one and the same. Whether the rails shook down the banks, or the banks shook down the rails, depends on the point of view. The banks said the rails did it. The rails said the banks did it. A rude pen-drawn cartoon now in the Minnesota Historical Archives portrays the farmers being crushed to death under the ties, a coach filled with "bloated capitalists," an engine made up of harnessed Wall Street "cats and dogs," Satan behind spearing the caravan on to the precipice, his tail switching like an angry tiger's. There is a lot of truth in that old cartoon. Farmers below the ties; capitalists in the coach; "dog and cat" investors hauling the load — all speeding to the crash hard as they could gallop, and they didn't know it.

The Northern Pacific idea was really the brain child of that same Asa Whitney, whose persistence had roused the country to the great design of a transcontinental to link Atlantic and Pacific; but there were peculiar reasons why Whitney's idea of a transcontinental in the North persisted. This was recognized in Stevens' surveys of the fifties. Grades in the North would be easier through the Rockies, where there were lower passes. Trackbeds would be infinitely cheaper across flat or even rolling prairies. On long stretches, the cost would not exceed eight

to twenty thousand dollars a mile. Most important of all, good farm land promised a perpetual revenue east and west. That meant sound railroad finance from the first. The Chicago, Milwaukee and St. Paul and the Chicago and North-Western were already proving this. From purely farm revenues going ahead link by link as income permitted expansion, they were already up through Wisconsin and across Iowa by 1856.

Stevens' surveys up to the Civil War practically laid down the very line now followed by the Northern Pacific; but the mistake made by the first backers of the line was to waste time trying to get Congressional cash aid as well as land grants similar to the Union Pacific and the Central Pacific. This, Congress would not grant; for it did not regard a Northern transcontinental as a national necessity. It did, however, double its first land grants. The name Northern Pacific first came up in '57 from Washington Territory and was used again in the Federal Senate in '61, but until the close of the Civil War the Northern Pacific as a line "existed only on paper."

Then there appeared in the Northern Pacific arena Perham, a Maine man absolutely obsessed with "the big idea." He did not shy at a possible cost of a hundred millions; but he made the mistake of thinking he could get one million people each to put up one hundred dollars and then he said blithely — "the road is built." Unfortunately, actual roads aren't built that way. A few Boston people subscribed from ten to one hundred dollars. Perham then turned

The " Grand Central Depot " in New York, completed in 1871, was one of the spectacular results of the enormous rail expansion in the decade succeeding the Civil War. It enabled trains to come quickly to the heart of the city.

Through the modern New York Central Terminal, which has supplanted the ugly structure erected in the 'seventies, more people pass daily than inhabited the Colonies during the Revolution.

THE MODERN COLOSSUS OF (RAIL) ROADS

This old caricature from *Puck* pictures Vanderbilt and two of the lesser buccaneers of railroading — C. W. Field and Jay Gould.

again to Congress and got his charter signed by the President in 1864. Then he returned to Boston to get the strongest financial group he could muster behind the Northern Pacific. He was a rich man himself and had powerful friends. There was hardly a prominent man in the North Atlantic States not among the one hundred thirty-five organized to put their shoulders to the wheel. Perham was, of course, elected president; but he little realized the burden he was assuming. He estimated the cost at one hundred twenty millions, but he averaged the lands to be sold at ten dollars an acre, or $473,600,000 for over forty-seven million acres. The highest price averaged for the Northern Pacific lands for ten years was two and a half dollars an acre. Subscriptions had now come in for two hundred thousand dollars to build a one hundred and twenty million dollar line; and out of this had to be paid costs for surveys and charter and what not. The trouble was that the subscriptions were not ample enough. The treasury was empty as a bell except for the clapper; Perham was the clapper, and there were debts. Perham then got another brilliant idea — make Boston the eastern terminal. At this, the big men of Boston did sit up. Utterly exhausted, Perham resigned to die in poverty, the victim of " a big idea," and John Gregory Smith of the Vermont Central came in as president. The Vermont Central was to be the link westward; but the trouble again was that Eastern capitalists would not lend even on that huge land grant. Smith at once saw he would have to change his tactics

and muster a great rail syndicate, with enough cash to push such a publicity campaign as the banking world had never known; then induce the strongest banks in the world to market bonds for the Northern Pacific. The Erie, the New York Central, the Pennsylvania, the Chicago and North-Western, came in to help him there; for they realized they might all share in the new traffic from such a great line. This was both a fortunate and an unfortunate move. It threw the destinies of a great Western line into the control of purely Eastern hands and created a suspicion against it in the West that it might be used for such stock juggling as had wrecked the reputation and the finances of the Erie; but it did bring in the most powerful banking firm in the United States, and through that banking firm the most powerful banking firms in Europe with the exception of Germany. A great many people thought, and still think, that the Northern Pacific would have gone ahead faster if, like the Chicago, Milwaukee and St. Paul or the Chicago and North-Western, it had gone slowly ahead step by step; but they forget that the Civil War did not stall those lines — it enriched them. They also forget that Indian wars did not react in Wisconsin and arrest the flow of colonists. Prior to 1870, the Northern Pacific — as its official historian Smalley says — "went to sleep." It could neither sell its lands nor bond them. No one would touch the bonds. It is easy to say it might have done this or it might have done that. It had tried both this and that; and had come to a dead stall.

The greatest banking firm in the United States was Jay Cooke and Company. Its rank equaled that of the Morgans in the United States, and of the Rothschilds in England. It had branches in all the big American cities and all parts of Europe. It was bold, enthusiastic, cautious. Jay Cooke had popularized the government loans that carried the country through the Civil War. He was shy of the Northern Pacific at first and sent out his own exploring parties and his own engineer to examine and report on every mile of the projected line. He went out quietly himself and sized up the Western situation from Chicago to Lake Superior. On this trip he invested heavily in lands near Duluth and in Iowa. Each of the big groups urging him was also getting personal reports. Our old friends of the Erie — Dr. Lord and Mr. Diven — were among such emissaries. They examined from Red River to Puget Sound. When the reports came in Jay Cooke was enthusiastic as any Westerner; but he drove a hard bargain. The mortgage taken by him had to cover the lands and the line. The one hundred million dollars needed would then be issued as bonds bearing interest at seven and three-tenths per cent. Of each hundred-dollar bond sold, the Northern Pacific would get eighty-eight dollars, Jay Cooke the difference; but Jay Cooke was to sell those bonds at par or lose the difference in his own profits. In addition, for every one thousand dollars of bonds Jay Cooke was to get two hundred dollars of a stock bonus; so if the great adventure went through, Jay Cooke had assured twenty

millions of stock free and twelve million dollars cash on the bonds. In return Cooke bound himself to raise five million dollars within thirty days after January 2, 1870, to begin construction at once.

The question at once comes up, did the big group put up one dollar of money for the residue of stock its members were to get? Except to pay the debts of Perham's group — about six hundred thousand — *not a dime*. Sounds bad, and raised a stench in many nostrils later; but wait for the end of the story.

It would not add clarity to say that the road was to go ahead in sections in order to be completed on time to fulfil its charter, on which it already had extensions. The plan was to connect up from St. Paul to Duluth; then go west to Bismarck; then down to Fort Benton and Great Falls; then come east from Tacoma through Yakima to the Rockies which were to be traversed through the old fur traders' trail of Hell Gate. At this period Cooke and his friend succeeded in getting the land grant almost doubled. In addition, Jay Cooke and his associates were to have a half interest in each town site company. If the Franco-Prussian War had not broken out, Jay Cooke would have drawn German bankers in for fifty millions; but he had to look elsewhere in Europe for that sum. Promptly on the dot, Cooke had the five million dollars ready for construction. Then he began. We can look back now and say no road of two thousand miles — of which fifteen hundred miles were without a single settler — could pay seven per cent on each

unit of eighty-eight dollars debt; but once committed, Jay Cooke never hesitated.

He kept all his offices and branch offices so decorated with beautiful lithographs of the Northwest, of towns springing up like mushrooms, of yet unrealized settlers' homes ensconced in orchards, of wheat genuine enough and of a yield to make the East gasp, of rails shuttling across the great plains, of stock wading girth deep in pasture, of colonists trekking west in countless caravans — that the Northern Pacific territory became jocosely known as " Jay Cooke's Banana Belt." Advertisements appeared in all leading newspapers, dailies and country weeklies, from which no doubt the Northwest later reaped a profit. Editorials commended the loans and commended the enterprise. Army officers' letters, visitors' impressions, settlers' successes, were printed in pamphlets and showered on the world. Small savings from family teapots, profits from shop and factory opulent from the Civil War high prices, country banks' surplus moneys looking for safe investment, poured in so fast Jay Cooke's firm could hardly handle the rush. Yet never a charge could be made or proved that Cooke used that money for political corruption. That he had overdrawn his picture as the Northwest then existed, no one could deny; but the investors did not know that. It is a truism that most people investigate afterwards. That Cooke believed all he published and that later developments proved his faith founded on fact must be set down to his credit. Else he would not have staked his entire fortune on the venture;

but he had committed himself to pay that seven and three-tenths per cent interest yearly on those bonds.

Some factors he could not foresee. The Franco-Prussian War was one. The victory of Germany forced European buyers of Northern Pacific bonds to fling them back to American buyers in whirlwinds. They had to have money — real money at any sacrifice — and the high prices paid to Americans for goods of every sort during that war gave Americans ready money to buy those bonds cheaper than Jay Cooke's par; and those cheap bonds bore interest at seven per cent for Jay Cooke to pay. It didn't take much figuring to see that if American banks could buy Cooke's Northern Pacific bonds at twenty to thirty per cent off Cooke's price, they would buy them and leave Cooke with lots of Northern Pacific bonds unsold on his hands. Yet, during two years, he was pouring out money like water, for construction. Thirty millions' of bonds he had sold, and thirty million dollars he had poured out for construction, for advertising, and for interest on those bonds. The spring of 1873 muttered with rumblings of the coming crash. If Jay Cooke had not been dazzled by his own enthusiasm, there were things that he as a banker ought to have foreseen.

In the Civil War, paper money paid gold debts. Many a farmer and merchant got out from under a load of debt at that time by paying off loans and mortgages in paper worth half the debt in gold. If they had stopped there, they would have grown rich; but they didn't. Here came the Franco-Prussian War

with high prices again; and the American public plunged — plunged headlong in deeper debts for greater riches. Gold standards had come back. These new paper debts had to be paid in gold; and with the end of the Franco-Prussian War, prices and profits in America dropped like a stone. Men found themselves loaded with debts they could not pay. They either sold their Northern Pacific at a sacrifice, or demanded their "pound of flesh" in that seven per cent interest on bonds now sinking in the market. All the summer of 1872, constructors on the Northern Pacific became aware that the money from Jay Cooke was coming West slower and slower in smaller amounts; but "the big group" had such unbounded faith in the firm which had pulled the Civil War through tighter places that no shivers went down their spines till Cooke appeared before them in person, in August of '72, and told them frankly the country had ceased buying Northern Pacific bonds and they would have to raise on their individual credit a loan to go ahead. President Smith was asked to resign his twenty thousand dollar a year position as president. Whether, when they went home that night, the bankers and rail heads also began to feed out to an overglutted market the Northern Pacific bonds they had picked up at bargains, we don't know. They would hardly have been human if they hadn't. One thing we know they did not do. They did not tell the public; but the public — or the thoughtful part of it — could read signs for themselves. Falling prices for the bonds meant one of two things, financial juggling

or trouble ahead. Of course, disgruntled small investors thought it was just another Wall Street trick of the inside ring gambling up and down. Wise heads jumped out of the sinking ship, swam ashore, and waited.

General Cass of Michigan and Ohio came in as president. One wonders how he had the courage. He was out on the Pacific Coast with Ogden and Billings and others of the group picking Tacoma as a terminal when he was called East. Cooke did not go down supinely. He did perhaps the only thing we can consider dishonest. It is not now "openly" permitted on the Stock Exchange. He kept his brokers on the floor executing "wash sales." That is, one set of traders would offer one hundred thousand Northern Pacific bonds; another set of traders would buy ninety thousand "to keep up the market." Presumably gulls bought the other ten thousand; so the volume continued to seem large, and the public were duped in quiescence. One wonders whether dreams would have turned to a nightmare had they known that at this period Cooke had to call on his big group to put their hands into their pockets and "hold up the market." It all brings up the contention of Professor Ripley that honest investors in any rail property have a perfect right to know exactly what directors are doing with that property. Through this dire stress General Cass piloted the trembling ship till he had to assume the receivership for a bankrupt road in 1875; but the story hadn't yet reached '75.

Jay Cooke never deceived his associates. That can

be said of few men on a sinking ship. Those who knew him intimately said he always considered that " the big group " had failed him. He did consider that they had built with reckless speed and all the extravagance that goes with reckless speed and that they were thinking more of a quick turnover in Wall Street than of the prosperity of the line; but as he had bound them, so they had bound him, to pay " the last pound of flesh."

Government revenues were piling up. Public debts were going down. Mills were running full blast. Trade was buoyant. Only the farmers of the Granger states were grumbling, and Wall Street said they always grumbled anyway. When times were good, farmers wanted rail rates reduced because the rails were prosperous. When times were bad, farmers wanted rates reduced because they were hard up. " Let 'em grumble," said Wall Street. " On with the dance." The dance went on to September. On the seventeenth of that month, for some reason, stock margins began to melt like snow in sunlight. " Wildcat " rails were blamed. The very best and soundest systems in the country went off twenty to forty points in a day. Then on September 18, Jay Cooke closed the doors of his banks. He could not meet the interest on the Northern Pacific bonds. The reaction was as terrible as an earthquake rocking the foundations of the world. Men couldn't believe it. Jay Cooke! As impossible as the collapse of the Bank of England! Hundreds of thousands of employees in every walk of life were laid off in a week. Gloom became panic

fright — blind animal terror. Banks, little weak rails, trust companies, factories, public works stopped. "The rush to the Stock Exchange was so great it was feared galleries would collapse." Down went thirty banking houses in New York within twenty-four hours, followed by eleven more allied financial concerns in three days. The Stock Exchange shut its doors on the twentieth. Men had been fighting in the streets to withdraw deposits from banks and trust companies. In a night, a lifetime savings had been destroyed as if by fire.

A panic is an ugly thing at any time. The panic of 1873 was the worst the United States had ever known. Cooke sold everything he owned to meet his obligations — his beautiful residence in Philadelphia, his summer place on Lake Erie, his works of art, his yacht, his carriages, his furnishings, and retired to a small cottage near Philadelphia. In a story under a thin disguise, his life in that cottage is told. Either his daughter or his wife stood at the gate of the little cottage to welcome home a man broken in health and in spirit. She met him with neither pity nor reproaches. She had a sprig of roses in her belt and Cooke walked up the little garden path to a haven of peace and love. The collapse was never mentioned. There he regained his nerve and his poise and his indomitable courage and bethought him of a silver mine he had forgotten in the turmoil of the terrible years. He was then past middle life. He reopened his offices on South Third Street and succeeded in selling that mine for two millions. The disguised story may

be somewhat embellished, but it is in the main true of Cooke; and I have often wondered how much that silent partner had to do with his amazing recovery. It was testimony to the basic integrity of the man that he did have the business confidence of his associates sufficiently to get back on his feet and finance a genuine mine. Whether the mine was up on Lake Superior where he had bought interests before he went into the Northern Pacific or out in Nevada, I do not know. Up to 1875, "the big idea," like a dragon guarding the gates to a paradise, had slain every man who tried to pass it. Again, I ask as we asked Van Horn, why did they try it?

But if there had been no Jay Cooke and no Northern Pacific, the panic of 1873 was as inevitable as the hand going round a clock. The stench of the Erie was at its height. Investors were losing faith in all rails. They were "jumpy." Men who thought themselves rich in land found themselves poor, swamped with land. They couldn't sell without losing all, and they couldn't hang on without going deeper in debt. Prices had fallen for all they raised. A grasshopper plague had swept from Kansas to Manitoba. Drought years, debt, depressed prices, gambles in farming for quick returns, blasting the hopes of one generation; the rapid growth of the Farmers Granger movement from a few lodges in 1867 to 1,600,000 members — boded ill for prosperity in a land where the greater proportion of people were still producers from the soil. Rails had been notoriously built faster than population could support them west of the Missis-

sippi. Eastern management continued blind to the real situation. Editors in the East were too easily influenced by purely Eastern sentiment. Such men as Bayard Taylor and Dana were misled because they were chaperoned in rail excursions purely for the purpose of maintaining optimism. They did not go off by themselves and sound out true values. If they had, it is doubtful if their superiors would have believed them against the testimony of the most powerful bankers in the land, who were afraid to see and accept the truth. Hadn't everyone predicted a collapse after the Civil War and it hadn't come? Pshaw! One more turn of the wheel, and business would be on the up grade in a whirl. Men believed what they wanted to believe and they didn't want to believe that prosperity could pause or plunge. The pyramid of hopes grew wider and wider at the top and the foundation of real values shrank narrower and narrower at the bottom. It is an old, old story and will — I suppose — repeat itself as long as human nature is human nature.

First the crest, then the trough, but always the tide sweeping onward; and when storms break little care of tide for the craft engulfed. The Northern Pacific chanced to be a big spectacular wreck. That is all.

AUTHOR'S NOTE

Since writing the necessarily abbreviated account of the Northern Pacific and the crash of 1873 from such ample records as Folwell's three-volume *History of Minnesota,* Noyes' splendid *History of Finance,* and other financial histories of the period, as well as from Smalley's official narrative of the Northern Pacific, I found in another section of my personal files one of Jay Cooke's own financial pamphlets of

forty-eight pages, gay in a modest frame of red, and setting forth the exact facts on which he based his faith. I haven't the remotest idea where I got it; but I have a habit of never letting anything pertaining to history west of the Mississippi get past me. I see from the price mark that it cost four dollars and a half — it is worth it. Compared to the modern promoters' tricks of the trade, it is modest; and what is more, it is absolutely honest. There isn't a fact set forth by Jay Cooke which hasn't been surpassed by realization. I can see why, on the ground of facts only, he got the backing of such solid men as Ogden of Chicago and Billings of California and Cheney of the famous express, and Cass and Felton and the rest. Why, then, were their hopes blasted in one of the most awful failures of the rail world?

First, because no one could foresee what the Franco-Prussian War would do to American prices for farm output.

Second, because Cooke miscalculated the real value of the land grant of fifty million acres. Because the Illinois Central land grant had sold in certain sections up to ten dollars an acre, he figured that the fifty million acre Northern Pacific land grant — "equal in area to six New England States, large as Ohio and Indiana combined, room in it for ten States large as Massachusetts . . . seven times as large as Belgium" — would some day be worth five hundred millions and even at two and a half an acre would much exceed the cost of the Northern Pacific, put at from eighty-four to one hundred million dollars. It is worth that to-day; but that total did not accrue to the builders of the Northern Pacific. The Northern Pacific had to sell at what the grant would bring at the time; and when Indian wars and the collapse of farm prices stopped all land sales, the Northern Pacific had not the funds to go on. The people who did buy at two and a half an acre and could stick through the collapse were the people who got the increased values of that grant up to ten and fifteen and one hundred dollars an acre, and in the case of timber limits as high as thousands an acre. As we know now, much of the land grant did not net the Northern Pacific $2.49 an acre; and out of that had to be deducted the twelve per cent paid to Jay Cooke; and out of the twelve per cent Cooke had to deduct his tremendous expense of offices all over Europe and "shaves" and "splits" to brother bankers who floated his bonds.

Third, and most important of all, Cooke was a nonstop dynamo of nerves and drive till he smashed his own physical powers, and like all office men did not realize there are certain constitutional and time limits to all colonists flocking to new, hard frontier life. The spirit may be willing, but the flesh is weak.

The frontier is a land of youth for youth. Let the head of a growing family go in during his twenties or thirties; he can adjust himself to hot climate or to cold climate. If drought comes, he can bide his time till the cycle of ample moisture returns. If prices collapse, he can again bide his time. Let him stick it out for twenty years, and surely as the sun rises and sets, by the time he is fifty, he will find "Nature ever faithful is to such as trust her faithfulness." He will be on easy street,

amply able to ease his pace or retire on his life work. But suppose he is fifty when he goes in and then meets a succession of hot dry years, or cold long winters, or collapsed prices. The man of fifty is declining in his powers of resistance, of speed to beat a short season, of hours at toil long as daylight lasts. If he forces himself, he snaps. If he mortgages his buildings till the return wave of prosperity comes, he may waken in his sixties to find the mortgage has pulled the skids from under him and he is homeless too late to recover. All Cooke says of grain yields in Minnesota and the Dakotas is true. All he portrays of Montana ranch lands and the Inland Empire grain lands and the perfectly fabulous yields of lumber wealth west of the Cascades — have been surpassed by realization; but it took twenty-five years to bring that realization to pass; and the man past fifty can't wait twenty-five years. It was the human element that Jay Cooke missed in his calculations. It brings us back to one of the great essential lessons from rail's progress — the human element. The man behind the machine — whether the machine be financial or mechanical — is the driving power to success or failure.

Chapter XXVI
James J. Hill And The Great Northern 1873–1913

WE left the Northern Pacific a wreck, but this road was not the only victim of the great crash. From 1874 to 1877, over twenty thousand miles of rails went into the receivers' lap, among them our old friends the Erie, the Long Island, the Chesapeake and Ohio, the Union Pacific, and about one hundred fifty others. Neither bankruptcy nor receivership followed immediately on the crash of 1873; but both were inevitable. Besides the thirty-seven millions of bonds sold by Jay Cooke, unpaid debts on construction brought the total up to forty million dollars. For this the Northern Pacific could show less than six hundred miles of road. No use giving the names of Northern Pacific sections in running order, for all have changed names two or three times since 1873; but roughly they ran east from the Upper Mississippi to Lake Superior at Duluth, north to the Canadian border, and west as far as Bismarck, North Dakota, besides a road and river navigation company up the Columbia to Portland and The Dalles. Where falls and cascades broke the Columbia, the rail line counted on acting as a relief highway; and this section of the Northern Pacific, curiously enough, promised the best immediate freight returns; for between Walla Walla and the Pacific were more than one hundred thousand people producing grain demanded from California to Sitka.

Granting that of debts amounting to forty millions piled up by the Northern Pacific, the defaulting bank got twelve per cent and the road only twenty-eight million dollars, that was a lot of money for less than six hundred miles of rails and very poor equipment at that. It averaged over forty thousand dollars for every mile of track in more or less good running order. This total per mile would not have been too great for the Boston and Albany, or New York Central, or Erie, where costly terminals had to be bought, and the mistakes inevitable in first efforts had to be corrected, and construction up the Susquehanna and Delaware was difficult — yes, and in three different legislatures greedy political paws were out to be "greased" before the opposition of turnpike and canal could be pacified; but there was never any hint of political bribery in the Northern Pacific crash of '73. The terribly costly building across the Rockies had not yet begun. How had the "big group" behind the Northern Pacific managed to get away with forty thousand dollars a mile? Had they played with "marked dice" for personal gain? There was always that suspicion in the public mind. You will find it in local annals; for anyone knows that in those days a road on the flat prairie could be built for from eight to twelve thousand dollars a mile, and then with better equipment, as revenues came in to foot the bills, still keep the road costs to twenty thousand dollars a mile. Central Pacific had done so. So did Harriman in the wrecked lines he picked up and rehabilitated. So did Hill without a cent of govern-

ment aid and with no aid of land grants except such few areas as he bought from the bankruptcy court when the Northern Pacific went to pieces. There were over eleven thousand bondholders when Jay Cooke failed; but somebody must have picked up a lot of those bonds flung back by European investors after the Franco-Prussian War. You will meet one of those " somebodies " in a moment. He was James J. Hill, at the time a nobody in the financial world.

But keep clear in your mind two or three points or you will get lost in the financial web.

The default of interest on bonds existed as an obligation against the Jay Cooke firm.

Though Jay Cooke could mortgage the Northern Pacific and its lands, he could mortgage the land grants only as they were patented; and the land grants were patented only as the road was built, inspected, and passed by the government engineers.

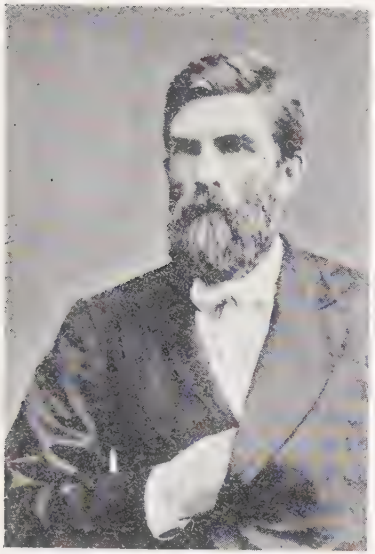
There and there only lay the hope of putting the Northern Pacific back on its legs, or rather its wheels, of building to go on and earn the rest of the enormous land grant.

Two great problems confronted the successor to Cass as chief director of a bankrupt road — how to save the bondholders from loss and how to go on building and earn the land grant. The successor was Frederick Billings after whom the city in Montana is named; and it is a name honoring the place. When the load fell on his shoulders, Billings, a Vermont man, was about fifty years old; but he had lived for years in San Francisco and knew every mile of the

West to Puget Sound, and he also knew the value of the Pacific Coast lumber lands. He knew that some very important coal lands had been discovered in 1875 along the projected line of the Northern Pacific through the Cascades and the Rockies. Here was traffic and saving in fuel supplies if the backers, who hung on, could only push the building ahead to get lands patented.

Billings' plan was a device often used to-day, but not general then. It was subjected to violent attacks. Angered at the collapse, blaming in blind fury Jay Cooke for losses, groups were demanding the cancellation of the land grants to the Northern Pacific. All that prevented those groups stampeding Congress was the fact of eleven thousand bondholders from Maine to Texas, who put pressure on their representatives in Washington to give the Northern Pacific a running chance to reach its goal instead of jail — to which the thoughtless would have relegated wreck and wreckers — and to save the colossal loss to eleven thousand innocent buyers of bonds.

Billings' proposal, adopted after slight changes, was that the capital should be divided into fifty-one millions of preferred stock and forty-nine millions of common. Let the bondholders exchange their bonds for preferred stock. The preferred stock was to bear eight per cent instead of seven and three-tenths. There were two years of unpaid interest, and the revenues would hardly bring in interest for three more years; but ultimately the bondholders would and did get four hundred dollars for every thousand



These four men were among the most prominent figures in American railroading during a half century. In the upper left-hand corner is General Dodge, a pioneer of the West celebrated for his wide knowledge of the Indian problem. To his right is a photograph of James J. Hill of the Great Northern in his late years. At the lower left is Edward Harriman, to his right is another of the pioneer railroad men.

This modern locomotive giant rides the rails on sixteen wheels, eight of them drivers. It is as long as a third of an ordinary city block, travels sixty miles an hour, and can haul over one hundred cars for freight.

Before the days of electrification, confusion, smoke and noise characterized the old Grand Central Terminal station in New York.

dollars they had put into bonds. This would leave over eight millions of preferred to finance the Northern Pacific's immediate needs. The forty-nine million dollars common stock would produce no dividends till the preferred holders got theirs. On the ground that the original " big group " put up very little cash except (1) for surveys, (2) charter expenses, (3) predecessors' debts, (4) " to hold up the market " in Cooke's frantic financing — this may have seemed pretty generous; but the road had still to be completed to earn lands before the lands could be sold. It was the best plan to which Billings could get almost universal assent; and it went through. How much the original " big group " stood to the good, I have never seen even guessed at by any critic living or dead; for in 1893, the Northern Pacific crashed again; and in that twenty-year period Northern Pacific preferred bobbed up and down on the Exchange at twenty to thirty dollars a hundred dollar par share, and common at anything down to a dollar and a half and nine dollars. Uneasy lay the head that wore a railroad crown. The crown might be a martyr's golden halo or a target for enemies' potshots.

Billings cut salaries to the bone. He paid contractors' debts up to almost six million dollars and got rid of the interest arrears that were piling up. He rushed construction with just two watchwords — economy and caution. He did more — like Ripley later on the Santa Fé — he sloughed off all subsidiary lines and projects, such as town site companies, which were not then revenue producers. If he hadn't, he

would have been criticized as a speculator; but when he did, and some of the properties then utterly worthless later became great revenue producers — he was criticized for the sacrifice. One of the sacrifices became the Great Northern. Another included some of the great ore properties on Lake Superior. Yet another, the line and navigation company on the Columbia. Others were town site properties. But he hung like a bulldog's teeth to the timbered land grants and the coal lands, which have become of greater value to the Northern Pacific than its original capital of one hundred million dollars. Lateral feeders he flung out wherever there was revenue to be garnered — down to Benton and Great Falls, into the mining sections of Idaho and Montana, up the Willamette past Portland, and south through Oregon. All this he could not have done had he been purely a bank manager living in the East; but he knew the West from bedrock to mountain peak. He knew that you can't "break a line" that depends for revenues on everything man needs from timber and coal to grain and beef. Congress had granted an extension of the charter time to earn the land grant. By the early eighties, the amazing recovery of all the Northwest from the crash of '73 had brought a second tide of colonists with land values jumping from two dollars to four and fifteen; and this brought behind the Northern Pacific such new powerful banking firms as the Laniers, Drexel, Morgan, Belmont and others associated with it to this day. It was in the sloughing-off period that Henry Villard, the German journalist and financier

employed to protect the bondholders of Holland and Germany, gained possession of the Oregon Railway and Navigation Company, and as the Northern Pacific stocks and bonds slumped, he used the revenues of that venture to buy control of the Northern Pacific. There is a big story in Villard's daring coups; but it can only be touched upon here. If the market had known what Villard was doing, the price would have run up against him. He did not depress Northern Pacific stock. He didn't need to. Investors had wearied of waiting for dividends on common, so Villard called on friendly bankers to put up eight million dollars for a secret rail project of which he gave them not the faintest inkling. If he had, they would have bought against him and exploded his plan. This was in February, 1881. By April of 1882, Henry Villard had at his command twenty million dollars and control of the Northern Pacific. The last spike was driven on September 8, 1883, at Gold Creek in Hell Gate Canyon.

During all these ups and downs of a bankrupt line, what had happened to the territory along the steel pathway that crossed the Northern Belt of the United States? Pig's Eye, with a population of perhaps three hundred squatters, had become St. Paul with seventy-five thousand people. St. Anthony at the Falls had grown from five thousand to as many as St. Paul. The Twin Cities to-day number near a million. It cannot be said that the almost dozen rails now centering in these cities built them; but the steel rails did make possible the industries that built the cities.

Duluth on the Minnesota side of Lake Superior and Superior City on the Wisconsin side grew from little fur-trade portage points to cities to which, by 1882, there came yearly almost six hundred steamers and three hundred sailing vessels. The forests of Eastern Minnesota built the homes of settlers from Western Minnesota to Eastern Montana. Nor can it be said that the rails found the vast deposits of gold and silver and copper in South Dakota and Montana and Idaho; but the rails made it possible for the miner to get his ores out and his supplies in. There are mining companies in each of these states whose capital far exceeds the capital of Jay Cooke's "Banana Belt." Also — the annual wheat crop alone from the four wheat states exceeds poor Cooke's "Big Idea." As for the two big Pacific states — Washington and Oregon — the doubts and jeers and sneers of the pessimists of 1873 and 1893 leave us wondering how faith in a big idea ever makes any headway against stupidity and ignorance and blind antagonism. The population of the four largest cities there — Spokane, Seattle, Tacoma, Portland — now exceeds a million and a quarter people; and these cities are only the hubs of wheels radiating to larger areas of support from grain farm, timber areas, fruit lands, mining sections.

To go back to the dismembered ruins when the Northern Pacific found itself over the precipice in the smash of '73, one of the sections which had to be sold under foreclosed mortgage was the St. Paul and Pacific, which had two forked lines unfinished. One

ran north to the Canadian boundary, the other was working west to the Dakotas. These were wonderfully arable belts. Recall my own childhood impressions of them ten years after the smash. They were what are called "the wheat gardens of the Red River." Recall also how a Mr. Hill and a Mr. Stephen and a great archbishop drove out in a buckboard to size up the real value of rail lines, which might not aspire to reach the Pacific but only to proceed link by link as revenues came in from settlers.

Hill, a mere lad of eighteen, had drifted from Ontario, Canada, on the great waves of immigration that swept westward in 1856. He had worked at whatever his hand found to do till he became a coal and wood merchant on his own account; and the coal and wood business was a mighty paying venture in a land of cold winters, when people were tumbling in like wild mustard to multiply a thousandfold each succeeding year. Hill's quick turnover of ready cash gave him capital to jump in another venture equally profitable. By 1870 it was cheaper for the great Hudson's Bay Company of Fort Garry (Winnipeg) to get its supplies in by way of St. Paul than by canoe from Montreal over Lake Superior or up Nelson River from Hudson's Bay. Mr. Hill now put his capital in boats to run down Red River to Winnipeg. He was sure of full cargoes of supplies going north and equally sure of full cargoes of furs back up Red River. To be sure, Red River was open only seven or eight months; but then furs came out in spring and supplies could go in only in summer. Especially was he sure after

he met Donald Smith, the commissioner of the Hudson's Bay Company. Hill's fortunes had already mounted to one hundred thousand dollars before he was thirty. Now one hundred thousand dollars in the late seventies and early eighties was as much as a million to-day. Then along came rails — rails on the bargain counter of a bankruptcy. Hill jumped to the chance like a trout to bait. It was a tremendous risk. Jay Cooke, the strongest banker in the United States, had smashed in such a risk. What could Hill do with his one hundred thousand dollars, where Cooke with his forty millions had failed? Would you have risked it? If he had failed in his judgment, with Smith and Stephen backing him, he might have dragged down the Bank of Montreal and he would certainly have given the old Hudson's Bay Company an earthquake shock; but Hill's judgment was cooler and surer than Jay Cooke's. He was on the spot. His idea wasn't "the big idea." It was to make the thing pay for itself mile by mile as he had built his own fortunes from the ground up. I have heard old settlers tell how he had a tough job convincing Norman Kittson to come in at all before he got Smith and Stephen. Kittson wasn't exactly discouraging, but he wasn't looking for trouble. He was convinced, but he didn't take fire. Hill was very economical in his personal expenditures. He used to take his meals at one restaurant. Kittson dined well — as all fur magnates did — at a more expensive house. Quite by chance Hill used to encounter Kittson coming out full fed and satisfied with life generally, and the two would pace the rest of their midday

hour talking. Hill did the talking. Kittson listened. One would give a good deal to have the record of those midday walks and talks. We know the upshot. Stephen and Smith came in with the help of the Hudson's Bay Company and the Bank of Montreal to buy that wrecked St. Paul and Pacific, later to be known as the St. Paul, Minneapolis and Manitoba. Hill was manager in 1879, but as revenues came in and his wealth increased, he bought more and more of the stock and in 1883 he found himself president of the company now known as the Great Northern. That was the period of which Van Horn talked when he said Hill and the rest of them could have quit rich there and then. Hill was then in the prime of life. If he had cared for money as an end, he had it and he had it to burn. Why didn't he quit? Why did he go on? I can no more answer than I can say why Lord on the Erie didn't quit, or why Jay Cooke ever began, or why Harriman gathered up the wrecks of '93 and made of them the great properties they are to-day. I don't wonder every writer of Western history takes refuge in the argument of Manifest Destiny. I prefer to take refuge in the blind faith that all men are tools in the hands of a Destiny higher than self. Of all the great rail builders, Hill and Huntington were the only two whose backs didn't break under the load of their own success or failure.

Envy ever loves a shining target.

So many whispers believed by countless people, so many lies circulated by blackmailers and stock plunderers who failed of their aims — have been cir-

culated and still circulate about the price at which Mr. Hill picked up the bonds and stock of the St. Paul and Pacific, that it is just as well to take the facts given under oath in the courts and proved in the courts rather than to credit rumors and gossip. I have heard men, tremendous admirers of Hill's ability, tell how in 1870 he took representatives of European bondholders out on trains over the bankrupt road, how he pointed out all its defects, the enormous outlay needed to rehabilitate it, how he used the worst engines he could find in the roundhouse and the most rickety cars he could find in the car shops, to discourage them and induce them to sell cheap; and my informants really believed what they were saying. So did I until I looked up dates. Now the damning thing about those dates is that Mr. Hill was not manager of those two bankrupt sections until 1879 when he and his Montreal friends already owned them.

On retiring from the chairmanship of the Great Northern's board of directors in 1912, just a few years before his death, Mr. Hill gave the whole story very succinctly. He hoped he "had earned the leisure to which every man is entitled." He was then in his seventies. He described the Great Northern solely as "an organic growth." He defined the crash of '73 as due solely to "lack of financial soundness." "The holders of securities in Holland were more anxious to recover what they could from the wreck than to put more money in. . . . My associates were George Stephen, Donald Smith and Norman W. Kittson. . . . We bought the defaulted bonds in March, 1878. . . .

The mortgages were foreclosed and the property bought in. The stock aggregated six and a half millions, the bonded indebtedness thirty-three millions. . . . The total capital was forty-four million dollars." The total completed lines did not exceed 667 miles. The lines had to be rushed to completion to save the land grants whose time limit had almost expired. The new St. Paul, Minneapolis and Manitoba began with a capital of fifteen million dollars and mortgages of sixteen millions. The total land grant earned is given as eight hundred thousand acres, value two dollars and a half an acre. In the boom of 1880 these yielded about two million dollars. The defunct charters which Hill picked up to adopt in the Great Northern carried with them land grants of less than three million acres; and these sold at a straight average of $2.49, according to the testimony of a rival road — the Illinois Central. At no time did Hill receive any salary as president. Revenues permitted the line to push through Montana by 1888, constructing an average of over three miles a day. Steamships were added for the Great Lakes in 1888 and 1889. In the latter year the Great Northern was organized to bind in " a compact whole the various properties that had grown too large for the charter of the old Manitoba."

I don't know whether Mr. Hill knew what his enemies called his venture up to 1889, but it was known as " Hill's Folly." Now for the court records: the famous excursion, when Hill was supposed to have shown off the line at its worst, was on a Sunday in

September, 1877, two years before he became manager. The Dutch took one year to weigh and decide on prices. The prices were, for the old bonds of 1862, seventy-five per cent of par; for the bonds of 1865, twenty-eight per cent; for the bonds of 1864, thirty per cent; for the bonds of 1868, thirty-five per cent; for the big Jay Cooke bunch of 1871, eleven and a half millions, thirteen and three-quarters per cent. To close the bargain, two hundred eighty thousand dollars was laid down in gold, the balance to be paid after foreclosure proceedings in each case within six months of the bargain, December, 1877. The difference between the date of the bargain with the Dutch representatives in 1877 and the completion of the bargain as given by Mr. Hill in March, 1878, was the time required to foreclose the mortgage. If Hill and his associates failed, the cash paid was to be forfeited and the property revert to the Dutch. One of the Dutch financiers put on record that he thought they had made a mighty good bargain with Hill out of a mighty bad business; for their stuff had been kicking about unsold up to 1875 on "European markets at five to eight and one-half cents on the dollar."

It was a good bargain for both sides. Only a Hill or a Harriman could have taken those wrecked roads and redeemed them. The distant investor couldn't. It would have paid those foreign investors to have engaged Hill at one hundred thousand dollars a year to take over and manage their properties; but if you had mentioned that yearly salary in an era when twenty

thousand dollars a year was cut off as a president's salary, the good thrifty Dutchmen would have expired on the spot. They fell for Jay Cooke's lurid advertising methods. They didn't understand this brusque river boatman's quiet way of making a job pay for itself. Besides, Hill's dinky little river steamer, the dirty shallow Red River, the empty fenceless prairies, the cluttered tar-papered settlers' shanties, must have looked blastingly disappointing compared to Jay Cooke's lithographs of shuttling rails and homes sequestered in orchard gardens and towns dotted over the plains like pepper on a potato. How did the rough unpeopled frontier look to bankers from a land where city lined canals cut through farms that were gardens and a thousand great ships bore commerce to world ports? I once asked an Englishwoman from the Thames how it all looked to her for the first ten years. She heaved a deep sigh. "Oh, I spent the first ten years wishing I was away and out of it," she said; and she was from the humble walks of life, not from bankers' chalets and European mansions.

The Dutch bondholders were as glad to get out of it all as Hill's group was to go in. It simply illustrates again the difference between the bankers' investments for profit and rail management for revenues. If the bankers had investigated half as thoroughly before as after investment, they could have averted losses; but they didn't. Neither could they have foreseen any more than did Jay Cooke what the Franco-Prussian War would do to all American bonds.

What, then, is the explanation of the amazing persistence of the misrepresentations as to the prices at which Hill and his associates bought the first nucleus of the Great Northern? Chiefly a lawsuit that for almost fourteen years dragged from court to court, up to the Supreme Court. One Farley had been appointed receiver for the section Hill bought. As receiver, his duty was to protect the investors. He contended that he had been the first man to interest Hill and show him how a great deal of money could be made by buying low from the bondholders. The Supreme Court held that, as his official position was to protect the investors, he could not be made a participant in any profits from betraying his trust; the defendants contended that, as he had not put up one dime to buy the bonds, he could not claim any share in subsequent profits from the management that restored the line; and the case against the Hill group met its final quietus. There is something both ludicrous and sad in much of this testimony. Kittson had never been keen. After Hill got him in by sheer force of his own powerful personality, Kittson was so afraid of losing all he had, that he offered to sell Hill his shares at twenty-five cents on the dollar. Hill hadn't the money. His fortune had all gone into the Great Northern and all his profits were going in after it. Kittson finally succeeded in getting rid of his doubtful investment to the Kennedy firm of New York at sixty cents on the dollar. His heirs lived to see that doubtful investment go up to two and a half times par.

Now to resume Mr. Hill's testimony from 1889 onward. There is nothing spectacular in the Great Northern's history. Hill hated and distrusted the spectacular and compelled his official biographer — Pyle — to tell the progress of his line almost in terms of finance, which is a pity; for there were fireworks enough in all conscience when he collided with another great banker, who investigated before and not afterwards. This banker was the infant son of a clergyman, who had left his family back in Jersey City, while he was trekking across Panama to California when Huntington of the California gold rush was swapping trades in peddlers' supplies across the same unhealthy zone. This banker's name was Edward H. Harriman.

In 1893 the last spike was driven connecting Seattle, the western terminus, with the Eastern family of consolidated lines.

Two or three factors subjected the Hill lines to criticism in their early years. He set out with two primary objects, which were sound, but the public didn't like those objects mainly because we are all selfish in our outlook. If Mr. Hill had taken the public as deeply in his confidence early in his career as he did later, much of that hostility could have been avoided; for, besides being selfish in our outlook, most people in a democracy appreciate we have to be fair in our dealing with the other fellow — or democracy will collapse. But if Mr. Hill had taken the public in his confidence earlier, he might have defeated his own ends and subjected every move he

made to the obstruction of blackmailers and the raids of gambling plunderers.

His two primary objects were to make revenues pay for progress and to keep faith with his shareholders and bondholders by giving them their share in dividends and interest; and from the time the Hill lines got under way in 1882, they never once missed a dividend, good times or bad times, and never once defaulted in interest on bonds. So far as I know, there are only two or three other rail systems in America with such a record. Not once were dividends paid out of capital account. Not once was interest on bonds paid out of anything but revenues.

But all this implied economical building and expenditures cut to the bone. The criticisms were that for ten years the trackbed was rough, the way stations poor, the sidings inadequate, the freight sheds not large enough. That criticism was true. Hill was making his line pay for its own improvements. The next criticism was equally true. For ten years the Hill lines subordinated passenger traffic to freight. Of course, it did. In sparsely settled sections, there was more revenue in freight than in passengers; but, on the other hand, people would have appreciated if told that the Hill lines were pushing feeder lines north and south to sections that would have been without any lines of revenue if all had been put into the long main line and North and South left without branches. If you look at the main line of the Great Northern to-day, you will see its many lines north and south make it look like the backbone of a fish.

OVERLAND BY RAIL IN A PULLMAN CAR

In the seventies and eighties transcontinental travelers were more than grateful for the rococo luxuriance of the new pullmans with their plush seats and gilded woodwork. George Mortimer Pullman founded the Pullman Palace Car Company in 1867

But out of the revenues year by year came an improved main line — better bridges, longer sidings, more direct curves, more solid roadbed, heavier rails, more powerful engines, bigger freight cars, till the little engines and cars first used looked like child's toys. Where, in the eighties, a freight haul might consist of twenty cars behind a wheezy engine that became asthmatic on an up grade, by 1928 the very same line carried speedy engines with from one hundred to one hundred fifty freight cars of three times the old capacity. So of passenger service. Where we were grateful in the eighties for plush-seated cars with a tawny doily behind our heads, to-day runs the Oriental Limited with cars resembling the best accommodation in a city hotel. These luxury trains of all the modern rails are really fine hotels on wheels, but all this took time to get results out of revenues.

In 1899, Mr. Hill bought a big area of logged off land, a logging road and ore lands on the north shore of Lake Superior, for which he paid over four million dollars out of his own pocket. His object was to get ore traffic for the Great Northern and profit from the iron mines for his shareholders. The railroad was turned over to the Great Northern at cost, the ore land was turned into an independent company and distributed share for share to the Great Northern shareholders. At this period Eastern people began to sit up and realize a new light of stellar importance had come in the rail world. Great Northern shares were soaring among the highest of all rails.

The Panama Canal was then building. What would be the effect on rails? Perhaps the only mistake in Mr. Hill's forecast of the future was that, judging from the failure of French capital to put through the big canal, until it was well under way he did not believe it could be a practical factor in transcontinental transportation; but when it was self-evident that Panama would cut the Western World in two, Mr. Hill was one of the very first to realign his rail plans not to fight Panama, but to use it. By the Panama Canal Act, rails were forbidden to own and operate ships using the canal. The folly of that clause in the Act has only been equaled by the folly of early rail laws in the East when steel was compelled to pay rebates to canals for every ton of cargo carried during the open season for canals. American rails, whose taxes had helped to build Panama, must not link up with ships to use it. Foreign rails, whose taxes contributed not a dime to build the great canal, could own and operate ships using the canal and get all the benefits of cheaper costs on the free highway of the sea, which American rails could not. The animus of such folly in the Act was, of course, the muddy memory that rails had somehow beaten canals in the past and might hurt transportation through the great oceanic highway.

There isn't a better example of confused thinking in all American transportation. Why had rails beaten inland canals between 1828 and 1848? Because railroads were open all the year round. Canals were not. Because rails were shorter than water-

ways as the diameter of a circle is shorter than the circumference.

Did either of these conditions apply to Panama? It did not. The conditions were the very reverse of the early days. Panama was the short cut across the diameter of a circle instead of round its circumference. Mr. Hill's first false impression that Panama might "be a pond for lily pads" now gave place to the swift action characteristic of the man. He let neither lily pads nor grass grow under his feet. If Panama was going to divert traffic north and south, then he must have feeders north and south for his great belt spanning the North. I never look at a rail map of the United States but I see the Chicago, Burlington and Quincy, the Illinois Central, in fact, all the north and south rails as a quiverful of arrows, Panama Canal as the archer's bow, the curving rails east and west as the thong pulled taut, and then those north and south rails as the swift arrows shooting cargoes to a thousand targets.

That is exactly what Hill in 1901 prepared to do — get an arrow north and south to shoot from the bow of the Gulf of Mexico. To put it in terms of traffic, if anthracite coal were no longer to come trundling across the Atlantic to the Western rails, but was now going down to Atlantic tidewater, then round to the Gulf of Mexico and up to the Northwest that way; if such manufactured goods as heavy machinery were going to do the same through Panama in bulk; if California fruits for the Middle West and oil from Southern oil areas were going to slip through Panama

and come up to the Middle West — Mr. Hill was going to have a rail feeder to help them along.

There was another, a deeper reason for his move. The smash of 1873 had largely been the result of the fall in European prices for American products. The transcontinental rails had been built as the great arteries of that commerce to and from Europe. That was all right when the population of the country ran from forty to fifty millions and depended on Europe for a market; but here was a new America grown up in Mr. Hill's lifetime with a population of over one hundred millions, which would soon consume all its own output. In such a land, with absolute free trade among forty-eight different states, each a little nation in itself, with no tariff walls, with perpetual peace guaranteed by the Civil War which settled forever the question of secession — Mr. Hill could easily see that the day would soon come when north and south traffic would be as profitable as east and west, when the grain and the beef and the lumber of the North would trend south to be exchanged for the cotton and the sugar and the tobacco and the fruits of the South.

Let us pause here a moment. From being captains of a dinky little train along fourteen to twenty miles, as in the first ten years of steel's progress, do you realize that the rail president, conductor, and crew had now become officers in great imperial armies? From employing a few hundred men a year, as on the branches of the New York Central, do you realize the big lines now each had thirty-two, forty, sixty, eighty

thousand — or close to 1,700,000 people on their pay rolls?

This point needs emphasis; for it comes out again in James J. Hill's plans to link up North and South as well as East and West. Looking over the best road to serve his purpose, he picked on the Chicago, Burlington and Quincy. The Chicago, Burlington and Quincy had connections which later led to control of the Colorado and Southern. By 1907, the Great Northern, originating in the scrapheap of the Jay Cooke failure in '73 with six hundred miles of unfinished roads, had grown to ownership and rights in fourteen distinct companies 7,407 miles of steel.

But James J. Hill never forgot the Jay Cooke collapse. He knew his own day was drawing to a close. He wanted to protect his system forever from dispersion of stocks and bonds subject to speculative raids or bank collapses; so he formed his Northern Securities Company, to gather in its fold the Northern Pacific, the Chicago, Burlington and Quincy, the Great Northern, and their lesser lines.

It was while gathering the Chicago, Burlington and Quincy into his fold that he collided with as great a rail genius as himself — Edward H. Harriman.

Chapter XXVII
When Hill And Harriman Collided
1848–1907

DURING my life in the West, I witnessed only one tornado. I was coming home from school. It had been a day of heat doldrums, heavy, dull depression, which neither mind nor body seemed to resist. One's feet dragged and one's mind went blank. There was a curious sense that everything went suddenly fearfully still. I looked up. The calm atmosphere seemed charged — I don't know with what; but the filtered hazy air seemed to darken. There was a little puff of wind like the first spit of a rapid-fire gun and away to the north the black, looming, angry clouds began to whirl and wheel in a way that sent me home at a breathless scamper. I called others of the family "to come out" — something "queer" was the matter with that storm. Not a drop of rain was falling, but there was the mighty rush of an angry upper wind. Fortunately, the storm hit to the north of the city. A gigantic spiral was going up and up and up, black as ink, but it didn't seem to be going up the way other storms went up and came down. It was upside down, it whirled faster and faster, roaring like an aeroplane propeller, wider and wider at the top, higher and higher, switching its narrow tail end into a funnel. We got out a field glass. Then we knew. The tail was taking up in its swirl boards, shanties, turrets and cupolas of houses; and as the wreckage went up to the widening top, the air

blackened with dust. The throb became deafening. The whole thing seemed to gather up in the topheavy clouds, to swallow its own tail like a python, then — down came the debris in a crash. All was over in ten minutes. The sun came out. The cooled air rushed in to fill the vacuum, and the heat turned to normal summer atmosphere. All that saved the city was the fact that the tornado struck far out on the prairie; but the switch of its tail had cleared streets of waste paper, of loose shingles, and, on the outskirts where the foreigners lived, of chickens and chicken houses and wash lines and, I believe, some women busy at the wash lines were hoisted from their feet and knocked flat.

That tornado has always reminded me of rails' progress. So long as the spiral was broad at base and narrow at top, things were safe. Reverse the spiral. It still went up and on, but it swept into its wreckage every flimsy thing within range of the tail.

A rail line is never complete. The marvel in labor-saving invention to-day is to discard for a better invention to-morrow. The fence rail tied to chain couplings to keep cars going downhill from telescoping each other gave place to, "link and pin couplings," as I think we called them in our childhood days; but it seemed very marvelous to our gaping eyes when the brakeman in his striped smock dived between bumping cars and, as the iron snub of one car banged into the double iron plate receiver of the next, jammed a big iron pin through the snub and the two receiving plates and then hopped out before he

could be crushed. Once in a while he didn't jump out in time. Many a brakeman lost his life by the couplings not jibing on a curved siding, or missing shot with the iron pin, or clumsy moves on his own part; and many more wore bandages where a hand had been jammed or a finger lost. The brakeman was the hero of the train, to our eyes. I had one young brother who always insisted his smocks should be made in brakeman stripes, and out of a discarded sewing machine he built a miniature something, but we were never quite sure whether it was a threshing machine or a train; but I know there were battles royal between unappreciative small sisters and a brother who contemptuously said girls would never make good brakemen because they didn't wear striped smocks. I regret to add he did not go in mechanics because that was not the vogue at the time. No one could foresee we were going into a mechanical age, any more than the average person could foresee what rails would do in a century's time.

Then in the late eighties came automatic couplers, which I am not going to describe for two reasons. First, I am, as my brother declared, quite incompetent. Second, because they were later succeeded by a better device. In nontechnical language, every one knows that if you shove the end of a half circle into the end of another half circle, it will pull right out; but if you turn one half circle upside down and fishhook it into the other half circle it will lock automatically and hold and pull as strong as it is hard and unbreakable. That is the principle of the auto-

matic coupler; but it wasn't till 1889 and 1892 that it was made unlawful to use any couplers other than automatics. It was hard to get them universally adopted state by state from Connecticut in 1882 to New York and the West by 1892. No use having one car with the old "link-pin" couplers and another with the new automatics. They didn't jibe. The new coupler had a little snub. The next car bumped that little snub so it opened its latch. Into the latch thus opened, came the fishhook of the next car knocking up the snub and locking the coupling like two fishhooks. The brakeman didn't need to stand between two cars to be jammed to a jelly. He signaled the engineer, and the backing cars did the rest.

Similar improvements came in train lighting. The first lights were flare torches in sand pots protected by glass. Then came kerosene lanterns and gasoline and other devices until Lewis, of rapid-fire gun fame, came with his recent invention of lighting cars by generating electricity from the wheels of the moving train. Before that device could be perfected, it had to be preceded by films for the light bulbs. Whereas the brakeman used to run through the cars with a torch to light lanterns hung above the aisles, we can now press a button at the head of any car seat and regulate the little lights for that seat.

Or, consider the brakes. You recall how Slaymaker's bull tried odds against a tie in front of a descending engine, called "the cowcatcher." Such wooden brakes as wagons still use to drop in front of hind wheels on steep slopes gave place to buffer

brakes, when the brakeman had to run along the roof of the cars and twist a wheel that jammed down a buffer against wheels. You can still see them on old type cars. It was perilous work for both the brakeman and the train in icy windy weather. For years inventors had been busy on devices to make steam do the job; but rail men had been so pestered with inventions that wouldn't work when most needed — at high speed — that when the real inventor came along with a device that would work he could hardly get a hearing until he was almost hungry. George Westinghouse was born in 1846, and had moved to Schenectady where his father was in the machinery business. Rail development was in the very air. George worked at seventy-five cents a day to the time of the Civil War and came back from the war with an old head on young shoulders. He saw a bad head-on collision on the line between Schenectady and Troy. That set him thinking. He thought first of the buffer brake. Then he tried a chain brake running under the cars back from the engine. Too slow! Didn't act in time. The Swiss were using compressed air for drills through their Alpine tunnels. Westinghouse got his idea. Have the air pump driven by the engine. Have a compressed air reservoir. Have the air reservoir's pipe go right up to the engineer's hand. Have the air tube run back to each car. Have couplings connect the tubes. The engineer, seeing danger ahead, could throw his brakes against each car. If a train broke in two, the drop of the brake would arrest each car; but it took well on to 1880 for Westinghouse to get his devices

perfected and induce the rails to adopt them. It is clear that high speed from Atlantic to Pacific, engines of terrible pulling power, trains of one hundred fifty cars, would be impossible without the automatic brake. Westinghouse lived to see the growth of cities whose major industry was the manufacture of his brake system. He is one of the few inventors who lived to profit from their invention.

But the air brake would have been lame without automatic signals. On curves, an engineer could see only a short distance ahead. The first signals were flags or lanterns in the hands of the track watchmen, who patrolled each mile; then red disks on the top of poles, which many people to-day can remember. Telegraph, of course, helped enormously; but it helped only where there were men at each end of the wire, and an engineer on the alert. By putting a block signal system in at each division where the pressure of a button could throw up at each station an arm with the red signal of danger till a train had passed and left clear open way for the train behind or coming head-on, what with lights, brakes, and signals, nothing short of the man dying or going to sleep on his post could endanger the train; but few could foresee all this even in the late eighties and early nineties. Still less did we foresee the industrial revolution — *that the man with brains had now come into mechanics; and that the Master of Destiny henceforth would be the man with brains to direct the mechanics.* I don't know why we were all so blind or why, until the last twenty years, boys with brains were being

During the great "Erie War" Jay Gould's bodyguard encamped for the night in the offices of the company in the Grand Opera House building.

Confusion and desperation marked the ten minute stops for refreshments in the days before the introduction of the diner. This amiable exaggeration might have been inspired by any Western railroad station during a stampede for food.

piloted into kid-glove professions, many of them to starve because they had not been educated for a new age.

But there was a boy born in 1848 who did foresee and in his fourteenth year refused to go on with plans for a university education because he sensed a change to a new world. Perhaps the pinch of poverty in a genteel home made that sharp youth feel the time had come when book learning would not count against a topsy-turvy world of facts, where science had hardly yet co-ordinated learning with mechanical needs. He was too frail and abnormally short physically to jump into manual labor; but he knew somehow that book jobs were no longer paying jobs; and he got his first work as street messenger and "padshover" for a firm of stock brokers in New York, where he seems to have kept his eyes and his ears open and his mouth shut and to have wherever he went sheer quick, dependable qualities. He also seemed to recognize his own limitations and took every possible form of exercise from trainers — swimming, running, boxing, rowing, paddling, walking, target shooting — to build up his physical machine; and he forced his body to obey his will so sternly that it ultimately broke under the inflexible driving power of his spirit.

That boy was Edward H. Harriman. I can't find an iota of evidence that in brain ability he was above the average. In will, of course, he was an irresistible force, so irresistible that Morgan, a giant physically, could not believe "that little Harriman" could ever

go through with the giant forces he put in motion. His very physical littleness and quiet force antagonized Morgan as it did Roosevelt. As I read the story of all three lives — not in their biographies, but in their acts — I rather suspect that irritation was below the consciousness of both big men. When Morgan and Roosevelt crooked their little fingers in a gesture that signaled "come to me on the run," they couldn't understand why Harriman didn't run; and Harriman, who knew what *he* was doing and didn't care much what *they* were doing, couldn't understand why he should run. If he was right, results would take care of themselves. If he wasn't, he would try to get on the right course; and he never tried to swim against physical and economic laws. He didn't argue with facts and tear himself to pieces trying to fit facts to theories. I don't believe he had much use for theories. His school was hard knocks, which he took joyously without a whimper and used for the next mile ahead; but he had a heart as big and warm as his body was small and his judgment cool. I rather suspect that, too, came from genteel poverty, for genteel poverty makes a nature either small and mean or big and generous.

For instance, going to and from Trinity Parish School, Harriman couldn't help seeing a great many street arabs who never had a square deal in life. The gutter was their playground, the cesspools of city's vice their school, and a crime in the police court their graduating diploma as future toughs and criminals. He knew very well you could no more crook your

finger for those young urchins and semaphore them into the fold to become goody-goodies than you could trap a wolf and turn it into a sheep dog or rope a wild steer and turn it into a plodding ox. He knew you had to provide a wholesome physical outlet for those kids to build up their bodies. He knew their love for rough and tumble fights, though they did hit under the belt and gouge each other's eyes; but he also knew that inside the body must be a disciplined clean mind to direct it; and inside the mind must be a silver-clear spirit to keep the thinking from mud and slime and the gutter and all the rest so self-evident to anyone looking in their ferret eyes and pasty faces, complexions pimply from bad food and worse thinking. Before Edward Harriman was twenty-six, he was thinking along those lines. Before he was twenty-seven, he had heard of a Mission which could handle the girls all right, but couldn't handle the boys. I think his first attempt to rally boys brought him exactly three shy, half-shamed little male animals to see what "the white-collared gent" was up to. He gave them coffee and sandwiches and told them he thought they had better get together a real junior sports club similar to big athletic clubs for men in New York. That was a new approach for those apaches of New York gutters. Then he got his broker friends interested and within a year had rallied Russians, Italians, Hebrews, Hungarians, Poles, Greeks — the very human dregs of the Bowery — into the nucleus of one of the most famous boys' clubs in the world. I can't tell the story or even the beginning of

the story; its place is not here. Suffice to say that when Harriman died this club numbered some seven thousand members, with a clubhouse costing $185,000 which Harriman contributed personally, and had graduated from its ranks judges, Congressmen, aldermen, and hundreds of leaders in New York's industrial and business life.

Nor is there any use in sneering that charity was cheaper than justice and that Harriman did this later to salve a seared conscience. He didn't. He began when he wasn't worth a dime. He had lost all he had in one of the few foolish marginal speculations of his life. Later he set aside one of the greatest summer play camps in America for city youth, to which Mrs. Harriman has added till the Harriman Park is now world famous. Mrs. Harriman was another of Edward Harriman's amazing strokes of a fine heart and a clear head. She wasn't his cushion-tire from life's rude shocks — nor was she his shock-absorber. She was his partner; but this comes into the story.

To go back to his first job in 1862, he became messenger for a Wall Street house at five dollars a week. His sole capital, as he afterwards told an interviewer, was his pencil and his head. As a Wall Street boy he got to know a host of men then climbing — Ryan, the Vanderbilts, Jay Gould, a younger Astor, a Livingstone, a Fish, the Belmonts, the Cuttings, the Appletons, the Brooks', the Clarks, the Dodges, the Potters, the Jesups, the Trasks, the Schiffs. They liked him. They knew he was dependable; so, in his twenty-second year he borrowed three thousand dollars from

his uncle Oliver and opened an office of his own. First, he got little minor trades; but as he never made use for his own account, of the knowledge of who was doing what or why, he was trusted and his business grew so that he paid back the loan within a year. It was when his capital had grown that he made the first two mistakes of his life. By selling some coal stocks short on margins, he cleaned up one hundred fifty thousand dollars. That was mistake number one. If he hadn't been checked up hard, he might have gone on along destructive lines. In the wild gyrations after the panic of '73, he sold some Delaware and Hudson short. One of his own clients — an Astor — happened to want it; and when Harriman scampered to cover his sale by buys on the open market, he found Delaware and Hudson climbing so fast his entire profits were wiped out. He was never a bear on the market again in his life, but he learned a lot of the tricks of scoundrels playing the market from 1873 to 1880 and could read the signs of the secret moves with an uncanny eye from behind his large unrevealing spectacles. I think Harriman instinctively hated a destroyer, though he hated very calmly and coldly, which was much more dangerous than bluster and noisy drum-beating before action. When he struck a destroyer, he didn't need to strike twice.

From buying and selling on commission, he began in the eighties to buy stocks and bonds outright for a long pull up. He had met a Miss Averill, the daughter of a banker in Ogdensburg, and married her in 1879. Through his banker father-in-law he became

deeply interested in rails. There was a little thirty-four mile jerkwater road running down to Sodus Bay, on Lake Ontario, which didn't pay and was about to go in the bankruptcy court for the second time when Harriman persuaded an associate in New York to buy it in, reorganize, build an elevator, and put on good equipment. Still it didn't pay. Harriman offered to take it off his friend's hands. The latter sold gladly. Again Harriman improved it as grain and coal carrier for the Lakes. Then he offered it to both the New York Central and the Pennsylvania, as offshoot for freight. The New York Central were slow. The Pennsylvania took it at a good price. Mr. Harriman then took hold of a line to Lake Champlain, of which his father-in-law was president, and another line in Florida. Here he repeated the upbuilding process and got his " big idea," which had slain so many other men. He seemed to sense that, though the crash of '73 — during which he was in the thick of Wall Street — had thrown rails into disrepute with investors, now that population had caught up on rails and good crops were providing traffic and rails were still low in price and badly in need of repair and better building, the country was about to swing into another great rail revival.

One of the best rails in the country first caught his attention. It was the fine old Illinois Central now advancing down the Mississippi Valley to New Orleans. Stuyvesant Fish was a director and drew Harriman's eye to the growing possibilities of a line through such a rich area of four crops a year. Harriman's firm

BUILDING THE MISSISSIPPI VALLEY RAILROAD IN KANSAS.

The Union Pacific was really built under army discipline and no other construction ever surpassed it in speed. It was, according to old annals, "an anvil chorus" for six hundred miles through angry raiding Indian tribes

had sold its bonds; but foreigners were still shy of United States rail bonds, its stock sold low, and the "bear" crowd of plunderers were doing their best to push it still lower. Harriman let them push and used all his private fortune to buy all they offered. The "shorts" took fright, scampered to buy and cover commitments and up went the stock and up went the values Harriman held. Through a Dutch stockholder, Harriman was elected director in 1883. His aggressive policy as director can't be told here except to say it added one thousand miles to the Illinois Central. Old heads wagged — this was going pretty fast for an old conservative road that paid six per cent; but Harriman's policy was adding profits so fast he could now sell its bonds two and a half per cent lower than the Illinois Central could formerly sell bonds, and that saving shoved up profits. Whenever the interest on bonds fell, Harriman used to say, "This is a good time to buy money." He meant borrow it; but, of course, to sell bonds at a low price, he had to show his road earning traffic returns to justify security to long-time, timid investors. He had now gone out of the brokerage business. He couldn't be both the agent for other people's investments and an owner in the investments themselves. In other words, he couldn't shave at both ends, and therein he proved himself a wiser man than Gould. You couldn't plunge up and down on properties and at the same time build them up.

It was in connection with the Illinois Central that Harriman first collided with Morgan and then had to

sacrifice his friendship with Fish. Both experiences must have hurt Harriman; for he was very human. He had advised the Illinois Central to buy a line to Sioux City. Morgan held a lot of stock by proxy; but Harriman had bought fifteen thousand shares for the Illinois Central. Morgan never dreamed of the Sioux City road preferring as directors the Illinois Central crowd instead of his own nominees and when they put on the Illinois Central men, and then offered to buy out Morgan's proxies at eighty dollars a share — which was more than the rundown road was worth — it didn't improve Morgan's mood. He had to sell and he never forgave Harriman.

Fish now became president of the Illinois Central. Harriman was personally very fond of Fish but he didn't like his arbitrary actions as president without consulting directors. He didn't like Fish making changes in rates without advice of the practical general manager. It bedeviled and antagonized shippers. He foresaw that the country was going ahead pretty fast in prosperity in 1890 and he perhaps remembered what that had done in '73. "Our whole force should be *making and saving* money. . . . We can expand during the dull season." No "large expenditures now," he penned from a sick-bed in 1890. Retrench and sit tight — that was his policy.

We know that when the panic of 1893 did come, it swept in its vortex the Erie, the Baltimore and Ohio, the Reading, the Union Pacific, the Northern Pacific for the second time, the Santa Fé — in all one hundred fifty-six roads with a capital of two and a half

billions. Harriman, with his finger on the pulse of the money world, felt it coming. It wasn't, like '73, in any sense a railroad panic.

But Harriman had been applying buffer brakes to Fish's plans for expansion, though the Illinois Central never missed a dividend; and that probably irritated Fish. He began to act more secretively just at a period when secrecy was most unwise; for the Interstate Commerce Commission had been established, and all rails were under almost hostile scrutiny by irate losers on bonds and stocks. Gross earnings on the Illinois Central had almost tripled. What did Harriman, a banker, know about rails and ties and grades and bolts and spikes, anyway? But there was one thing Harriman did know about and that was sound finance; and there came the final violent break with a lifelong friend. It must have been a bitter blow. Harriman did everlastingly object to Fish depositing Illinois Central surplus funds in a weak Chicago trust company in which Fish was a trustee and from which he borrowed for other than Illinois Central ventures. Once Harriman out of his own pocket lent Fish $1,200,000 to cover that Illinois Central deposit then in jeopardy and told not a soul about it, but when Fish objected to the five per cent rate of interest charged, and then the same year deposited Illinois Central funds in another weak institution, the strained chain of friendship broke violently. Harriman then controlled twenty-eight million dollars of Illinois Central stock and after one of the longest and bitterest fights ever aired in the New York press

forced Fish out, in November of 1906. Harriman never told of his personal loans to Fish in 1903, till Fish's charges forced him to speak with proofs in hand. It was typical of the little man's cool indifference to public clamor until the defense of a great property compelled him to speak. Fish, no doubt, thought the two Chicago trust concerns perfectly sound until his own embarrassment proved his judgment wrong; but he had publicly charged Harriman with trying to throw the Illinois Central into the lap of the Union Pacific, which by this time Harriman was rehabilitating. Harriman produced his proofs that in behalf of the Union Pacific he had bought when low ten thousand shares of the Santa Fé, nineteen thousand shares of the New York Central, forty-five thousand shares of the Baltimore and Ohio. Was he "trying to throw" them, too, in the Union Pacific's lap? The charge was absurd. All this came out in the hearings hostile to Harriman before the Interstate Commerce Commission. Perhaps Fish believed his own charges. There was even great bitterness between the two families, now near neighbors on the Hudson. Mrs. Harriman was quiet, but like her husband a quiet force. Mrs. Fish was a great social leader and yielded first place to none. Such natures are constitutionally in antipathy. Neither understands the aims and mental language of the other. The farther they keep apart, the happier the relationship; but it created another bunch of enemies for "that little Harriman"; and that little Harriman was too busy and too near the end of his physical strength to care

one stiver if he had known. It was perhaps a mistake for Harriman to be so reticent under attack. It gave rumor a free field; but that was the way he was built and worked. That is all there was about it. "If the postman paused to kick every dog that barked, he would never get his mail delivered." A good rule but not always workable in a muckraking era, when the modern buccaneers were giving the muckrakers only too much in the way of ugly truths dragged from the slime of scoundrel finance. The good were apt to be spattered with the bad, as Roosevelt later pronounced.

To go back to Harriman's plans for expansion by building up, not tearing down — Harriman's great opportunity came in the panic of '93. Though the panic threw one hundred fifty-six rails in the bankruptcy of the junk heap, it was in no sense a rail panic. It began in Europe with the failure of Baring Brothers, who had loaned too heavily on South American projects. The failure was for over one hundred million dollars. That was a lot more money in '93 than a billion is to-day. European investors did not discriminate then as clearly between North and South America as they do to-day. In any case, they had to fling American securities back on the American market for any price; for gold Europe had to have to meet international accounts. This had two immediate effects — it kept gold draining away month by month to Europe and it sent the price of American stocks and bonds off not a few points a day, but in great slashes of six, seven, eight, ten, twenty points

till the Stock Exchange records began to resemble a toboggan formed by a series of hard bumps.

These two effects had again a double reaction in the United States. Gold has to be the international medium of exchange; for nothing else will all nations accept. The drainage of gold to Europe created "tight money." The currency of the United States did not seem sufficient to cover the needs of trade. The second reaction was that the fall in the prices of stocks and bonds scared out timid investors in the United States and accelerated the speed of the toboggan.

Proof that 1893 was not a rail panic is found in the fact that, though one hundred fifty-six rails went down in the wreckage, the number of commercial failures was three times greater than in 1873. Six mortgage companies, thirteen loan companies, five hundred fifty-four banks were in the casualty list. Even in the far Canadian West, two strong banks went down in the aftermath of the crash. Capital lost on rails alone is put at from two to two and a half billions. Add to that the other failures, and '93 left a devastated area in its wake.

Doubtless Harriman the banker sensed all these factors.

Now, as the warning on the subway stations says, "Watch your step"; for the factors crisscross and entangle.

The optimism of the eighties had increased speculation to a mania. Many millions had been lost in speculations. Scamps had built rails, particularly in

the Southwest, not because rails were needed but to speculate in town sites, in land values, in stocks — and then get out while "the getting was good," leaving the public holding a bag of debts or worthless bonds and stocks.

This shattered public confidence.

Then, all through the eighties, the output of Western silver had increased amazingly. Why not make silver the national currency by "free coinage of silver"? We all remember more or less vividly the eruption of "the silver-tongued orator" from Nebraska in the National Democratic Convention of 1896 describing hard times as "the crucifixion" of the people "on a cross of gold." Mr. Bryan was doubtless sincere, as he always was; but he ignored facts. The unlimited coinage of silver would have restored prosperity in the West. That was a fact. That was what he saw. What he didn't see, or what he ignored, was that foreign nations will *not* accept silver on a parity with gold. Also, in spite of the most magic phrase ever coined by an orator, the public in the United States, outside of the West, would not use silver coin. Try stuffing a twenty dollar bill in your pocket. Then try stuffing in twenty silver "cart wheels."

Other accelerating causes of the collapse preceding and following the 1893 panic were the fall in farm prices owing to the stoppage of European buying; the huge mergers of the nineties in sugar, lead, rope, oils, which simply could not pay dividends on "watered" stock, on worse than "watered" stock, on swindle stock; the rate wars among the railroads, which had

reduced revenue by a third, a half, yes, in one case two-thirds, far below the cost of providing traffic; and last the Coxey Armies of idle workmen marching across the country to demand work or keep, and levying demands for food wherever they passed.

Other influences infuriated the public. Rebates began by law in the Eastern States, the rails being compelled to pay the canals a rake-off. From that it was but a step to freight agents — " runners " — offering rebates or discounts to big shippers, against little shippers. The big shippers, especially, said they had to have those rebates to keep from insolvency in such hard times; but that didn't make the wrong to the little shipper any more right nor the bitter pill any more palatable. State regulations of rails had become a mania — a panacea for all ills. There were forty-eight different sets of regulations for rails, from rates to the length of bed sheets and towels. When the Interstate Commerce Commission had been established to unify all the divergent regulations, why didn't they act to curb and punish such glaring swindles as rebates and " watered stock "? Because up to that time, while the Interstate Commerce Commission could forbid this and that, Congress had not put teeth in the law to enforce and punish. Punishment in each case rested in the hands of the individual state where the crime was committed. I say " crime " advisedly. The swindle was a crime just as much as theft. The seas had been cleared of pirates. The steel rails hadn't been cleared of buccaneers. I think of an aged couple. They had invested all they had in a sound Southern

rail and retired at seventy years of age on what they thought were certain dividends of six per cent on stock and four per cent on bonds — surely not extravagant expectations. That Southern rail fell in the hands of buccaneers. The stock fell to eight dollars with no dividends, and the bonds to 60 and 70. The road was sold on a foreclosed mortgage. The wife was going blind in a cheap boarding house back room in New York. The husband at seventy-two was a floor walker in a cheap New York department store, where he couldn't possibly hold his job more than a few years. Was the jockeying that wrecked that road a crime?

Yet when the public looked to the individual states to punish such crimes, an unseen hand stretched out in the dark and paralyzed the courts. Sometimes it was done at the polls; sometimes, in the legislatures; and at rarer times, in the state courts themselves; and the little investor, already ruined, had no funds to fight such odds.

Now we come back to Harriman.

These things prove how true was his judgment in curbing the good old Illinois Central on all rash risks.

As a " commuter " on the Erie, he had studied it. When it went bankrupt in 1893, he held a few of its second mortgage bonds. When Morgan took hold of its reorganization, Harriman did not like the terms. Harriman's associates, Kuhn, Loeb and Company and Belmont, Peabody took the same stand. The lawsuit need not be detailed here. It upheld " that little Harriman " and increased Morgan's dislike. Harri-

man got out of the Erie, but his quiet victories had added enormously to the esteem in which he was held by other bankers.

In studying the big bankrupt roads now on the auction block, he was attracted by the Union Pacific. It was a Granger road; this is, it depended on the farm for its revenues. As farms came back to prosperity, so would the Union Pacific return to solvency. The whole question was, If he staked all he had personally, would his banker back him for the millions more required to equip the Union Pacific equal to the New York Central or the Pennsylvania? Harriman knew that along the Union Pacific were a genial climate, a two- and three-crop area, the beginnings of a great citrus industry, and the road would succeed if he could link up the Southern Pacific mines, oils, sugar areas and access to the Pacific Ocean with the Central Pacific.

Morgan wouldn't touch the Union Pacific with tongs. Kuhn, Loeb sounded him out because they did not want to antagonize such strong brother bankers. The common stock was selling below 25. Mr. Kuhn tells how when Harriman first began talking Union Pacific to his group, cold shivers went down their spines. " Worth two hundred in ten years and able to pay ten per cent? The wildest kind of talk! " Yet when Harriman had placed before them the facts behind his faith, they almost gave him a blank check. It wasn't through a magnetic personality either. It was facts, facts, facts which they could not gainsay or argue away. " Never argue with the market," is an

adage of Wall Street. "No," said Harriman. "Say rather — never argue with facts."

It was a big plan, but no bigger than the Canadian Pacific were putting through north of the border — better tracks, better equipment, shorter curves, connections with Asia and Alaska — and traffic would do the rest. The Union Pacific now had three thousand miles of branch lines. That was partly what had pulled it down. While the road could pay interest on its charges, its adopted family could not; and these branch lines had cost forty-two millions. When Schiff, the Kuhn — Loeb banker, went to Omaha to look over prospects, he was so anxious he paced the floor of his hotel room all night.

At this time Harriman laid the foundations of his own private fortune by buying Union Pacific stock all the way from 15 and 20 up. "Alas," sighed his banker associates, "that little fellow will come to grief yet." He did make millions out of his good judgment, but he made hundreds of millions for the investors who followed his lead. How Union Pacific was bought in at the receiver's sale for fifty-seven million dollars has been told. Then came the reconstruction. Here, the practical rail men got the jolt of their lives. Harriman didn't boss roads from an office chair. He had a special train made up with the observation car shunted ahead in front of the engine. With his two daughters, the president of the Union Pacific, the chief engineer, and the divisional managers, he went slowly over every mile of the Union Pacific by daylight. Notes were taken on grades, curves, rails,

ballast, engines, cars, stations, revenues for every division. As an example of those eyes behind big spectacles, divisional bosses still tell how he noticed loose spikes, rotting ties, boarded up car doors, bad roofs, " blistered rails," split rails that bumped, water tanks too small; and his questions were shot out at the bosses with the swiftness of a rapid-fire gun. When he stopped at little hotels for the night, he purposely brushed up against all sorts of people. What were they doing? Had a hard year? How long would it take to get out of debt? Shipping cattle, wheat, hogs, potatoes, what? Rates? What was their net? Yes, yes — many settlers coming in? What price paid for land? Cash or part payment? How about irrigation? Big thing — wasn't it? Yes, he believed that, too. Many people didn't know till afterwards that they had been talking to " the wizard " of Wall Street. He wasn't high-hat.

The first thing he wanted when he got back to New York was twenty-five million dollars cash — quick; and the second thing he asked was another twenty-five millions quick. To San Francisco, to Portland, to Butte, Harriman had made his inspection and he had more facts to bolster up his demands for every dollar. Do you know what he did when he touched Omaha going back? He wired for five thousand shares of Union Pacific for his own account, bought outright up to 66. And his family hold that stock to this day. It was not acquired as a speculation. It was bought as an investment. He had faith in his own convictions.

Improvements went ahead almost at the speed

Dodge had long ago built the first line. " Grading machines and dump-wagons were sent into the hills in train-loads. Steam shovels, the leviathans of the railroad camp, crossed the mountains in processions. They scooped the burrow-pits, cut the shale from the tunnels, dug the ballast, and loaded even blasted granite upon cars out of the rock cuts. Track-laying machines flung out rails on one side and ties on the other like sandwiches." At the summit the last hill was drilled and a tunnel eighteen hundred feet long was put through primitive granite. Here the Harriman engineers scaled two hundred forty-seven feet off the highest elevation at which the road had formerly crossed the continent; then came the task of getting gracefully down the distant slope of the hills to the Laramie plains.

In tunneling the Wasatch Range,

" the hole would not stay straight. The mountain reversed every metaphor and simile of stability, refused to remain in the same position for two days together. It moved forcibly into the bore from the right side, and then stole quietly in from the left; it descended on the tunnel with crushing force from above, and rose irresistibly up into it from below. The mountain moved from every point of the compass, and from quarters hardly covered by the compass. Workmen grew superstitious and engineers stood nonplussed. Starting in huge cleavage planes, the shale became at times absolutely uncontrollable. Wall plates well fastened into regular alignment at night, looked in the morning as if giants had twisted them. Twelve-by-twelve hard-pine timbers, laid skin to skin in the tunnel, were snapped like matches by this mysterious pressure."

By this time the Eastern press became aware of something tremendously spectacular taking place along the Union Pacific and when the Salt Lake cut-off was built a little later in connection with Central Pacific plans, the dailies were carrying specials with Sunday feature stories. Of course, Harriman didn't leave his huge expenditures on the Union Pacific as a debt obligation to be sacrificed in profits to the investors. To cover the costs of the Oregon Short Line, he issued twenty-seven millions plus more Union Pacific common stock. The capital of Union Pacific shot up from seventy-five millions preferred to one hundred millions, and the common from over eighty-eight millions to ninty-six. This was going it with a vengeance. One wonders what would have happened if Harriman's frail health had broken at this time. He lived to see his faith justified and his road with such surplus cash he could buy into the securities of other pay lines; so Union Pacific is now in the same class of investments as the Canadian Pacific, the Santa Fé and United States Steel. It is the tragedy of Harriman's life that in one other case, where he took such chances, he did not live to put back values in the road which he had loaded up with obligations.

In 1899, the first year of Harriman's complete control, the Union Pacific more than doubled its revenues. In another year, it had a cash surplus of twenty million dollars net and could pay a dollar and a half on common stock and four per cent on preferred. In another year, it was paying four per cent on its common. Harriman never ascribed this to his own

management. He ascribed it to two other factors — to improving equipment so it would do more work at the same labor costs: to the increased prosperity along the line; — and he was right. The 1902 traffic of the Union Pacific was almost double that of 1897. He had turned a bankrupt road into a pay road in four years. As a rail builder he has had no equal in the world except James J. Hill. By 1906, the Union Pacific was paying ten per cent on its common, and that twenty-five dollar stock was selling at 195. In the same period, shipping rates had gone down seventeen per cent.

As a holiday during this busy period, Harriman had equipped a steamer and taken the famous excursion to Alaska accompanied by the foremost scientists of the country. His somewhat explosive connection with a group of Southwest roads will be told in a separate chapter.

When Huntington died in 1900, Harriman had his chance to gather the Southern Pacific into his fold. He afterwards told how he did this to acquire the Central Pacific, whose story has been related. He accomplished this by issuing bonds against the Union Pacific to be converted into common stock, and such was the faith of the public in him that the public grabbed those bonds with both hands; and for every bond bought at one thousand dollars and converted into stock, the exchange stood fifteen hundred dollars plus stock. The Harriman rail family now comprised nine thousand miles of the best rail systems in the country. I remember being in New York at the

time Mr. Harriman arrived from a very quick trip he had made to Europe. A mob of editorial reporters stood on the docks. He came down the gangplank very slowly. " I can't talk to you now, boys," he said. " I'm all in." It is the only time I ever knew of Harriman saying " can't " in his life. The candle he had been burning at both ends from the time he was fourteen was now burning out. He ascribed it to seasickness. We now know it was not; but the flame flared up to great things before it finally flickered out. He helped San Francisco out of her awful disaster of earthquake and fire. He saved the Imperial Valley from destruction; and he had his great battle with James J. Hill.

Perhaps it was more a battle of Harriman the banker with Morgan the banker, than a battle of Harriman the rail builder with Hill the rail builder. Though Hill was a giant physically, tireless, alive to his fingertips and strong as a wrestler, there was much alike in Harriman and Hill. Both saw uncannily far ahead of contemporaries; had eyes that missed nothing; were mental wizards in figures; were demons for facts. Both had exceedingly kind hearts and led blameless private lives. Both drew to themselves helpers by a curious combination of deep fear and deep affection. I have heard the public curse both men; but I never met an executive of either man who didn't hold in his heart the deepest affection for his " big boss." I have heard secretaries, vice presidents, station agents, tell of being fired on the spot for some little carelessness, some delinquency, in little spend-

ings that mounted big in the aggregate, some faulty grading, some slip on this or that; but I have also heard them tell how they were taken back, when duly disciplined, and promoted as they proved they could do the job. Harriman's mule a minute is an example. His financial board received a telegram asking authority for a divisional man to buy a certain number of new mules. The board gravely discussed whether they should authorize so many mules bought. Harriman listened impatiently, then interrupted brusquely to say that if a divisional boss couldn't decide that question himself, the man should be fired; "for," he added, "my time is worth more than a mule a minute."

With Morgan, it was a case of temperament. When these two collided, there was a terrific crash and a stall. It was defeat for both. That was a pity. It threw the Interstate Commerce Commission off the track for twenty years. Those very consolidations were forbidden which to-day are authorized by law and advocated by the Interstate Commerce Commission.

The collision with Hill began very simply.

Hill had to have a line running north and south for reasons already told. Harriman had to have a line running north and south, too. Hill needed the line south just as much as Harriman needed it north. Both had to have the connections via Chicago for the Atlantic seaboard. Hill got the Chicago, Burlington and Quincy. Then Harriman began to look into the Hill family of lines. Right there the legal advisers of both men, perhaps I should say of both men's bank back-

ers, slipped a cog. It is an even wager that, if either Hill or Harriman had looked personally into that weak link in the chain, the difficulty would have been located; but they were acting swiftly and left details to their bankers; and their bankers, be it added, had employed legal advisers up to the number of five.

Please remember that the Northern Pacific had passed through two crashes, '73 and '93. Hill's bankers — the Morgans — had handled the reorganization of the new Northern Pacific, just as Harriman's bankers — Kuhn, Loeb — had handled the new Union Pacific. Both lines had been made into marvels of prosperity. That is to the credit of both bankers and builders. There was no rascality in either record.

The fight for control, now generally erroneously regarded as between Hill and Harriman, can be given very briefly, though it should be read in detail from the annals of the times by any little fellows who think they can play tricks in a big game and not get burnt fingers. If they are willing to take chances, that is their affair; but they must be prepared to be good losers. When Harriman first tried to get the Burlington, its stock stood below 140. It was worth that as one of the best lines in the West; but when under competitive bidding it began to climb towards 180, Harriman considered it out of line with its real value and his bankers became interested in bigger game. Hill didn't consider 180 too high, and when the Burlington would not sell for less than 200, he took their offer, adding the Burlington to his family of lines now under the fostering care of the Morgans.

Right up to this point, everything was done openly, half the Burlington being credited up to Great Northern and half to Northern Pacific. Mr. Morgan sailed for Italy. Mr. Hill went to the Pacific Coast. There was only one way Harriman could still get control of the Burlington for the Union Pacific. That was by secretly buying up control of the Northern Pacific stock. This was along in March and April of 1901.

By April 15, Kuhn, Loeb turned over to Harriman about one hundred fifty thousand shares of Northern Pacific common and one hundred thousand shares of preferred. They kept buying till Northern Pacific had advanced from 102 to 131 for common. A lot of Northern Pacific holders regarded that level as so high that they sold right into the hands of Harriman. It is told that on May 2, one of the Morgan clients felt so sure Northern Pacific was soaring too high that the Morgans sold for him ten thousand shares; and Harriman took it all. But there was one wise old lion on guard who didn't like his Northern Pacific turning over such tremendous volumes of sales every day. That lion was James J. Hill. He hated skyrockets and fireworks in rail values and, taking a special train from Seattle, raced to New York in the fastest time ever made from Pacific to Atlantic. Kuhn, Loeb were old friends of Hill's. As always, Hill went directly into the enemy's camp to see Mr. Schiff. No lies were told between the big men. "You can't get control of the Northern Pacific," Hill said to Schiff. "My friends hold forty millions and so far as I know, none has

been sold." "That may be," said Schiff, "but we're going to try."

Hill never took chances. He went straight across to the Morgan firm and had a cable sent to Morgan for permission to buy one hundred fifty thousand more shares of Northern Pacific "at the market." Unluckily, this was Saturday, May 4. Before an answer came back, Harriman's bankers had in all about seventy-nine millions of Northern Pacific stock. It made a majority of common and preferred together; but right there was "the little nigger in the woodpile" the legal advisers had missed.

On the first of January, the Northern Pacific had the right to retire the preferred for common, and that would give Morgan and Hill a majority.

This time Harriman took no chances. He was ill at his home, but called up Kuhn, Loeb to buy another forty thousand shares of Northern Pacific common "at the market."

It doesn't need to be told that on Monday, May 6, there were skyrockets. Of course, in a half day, Saturday, Kuhn, Loeb had been unable to fill the orders; but "the little pools," the gamblers whom Hill always called "the lunatic fringe," were in a double stampede. The "shorts" who had sold believing Northern Pacific would come down in an awful crash for them to buy in lower, saw Northern Pacific going up like a crazy balloon and rushed to save themselves at any price. The gamblers seeing Northern Pacific go up and up without any reason, dashed in blindly to buy more and cash in on winnings before the

smash; and the public — the fool public — chased what seemed to be the winning side. Meantime, Morgan's cable had come back to buy those one hundred fifty thousand shares for Hill. Up went the price 40 points in two days without rhyme or reason in such wild scenes as Wall Street had never witnessed before — up and up till some "shorts" were offering eleven hundred dollars a share to get out of their own trap.

Harriman stopped right there and then. Hill had his one hundred fifty thousand shares, but both sides knew they were in a zone so dangerous it might smash nearly every brokerage firm in New York. According to the records, the big fellows had quit at 150. It was the gamblers who precipitated "the corner." More Northern Pacific had been bought and sold — much of it on margins — than existed. Outside the big fellows, neither buyers nor sellers could deliver.

The big banks got together at once.

Northern Pacific went soaring for almost another week, though anyone reading the stock ticker record could guess that people and gamblers were flinging issues on the market at a loss either to get out of the Northern Pacific corner or to get in on a game of "loaded dice." United States Steel had fallen 22 points for no reason on earth; Santa Fé, 33; Delaware and Hudson, almost 60.

It was just a case of blind cattle in a stampede pushing one another over the precipice.

The big New York bankers lent enough to relieve the genuine brokers, as distinct from gamblers, till the big fellows could put their heads together and find

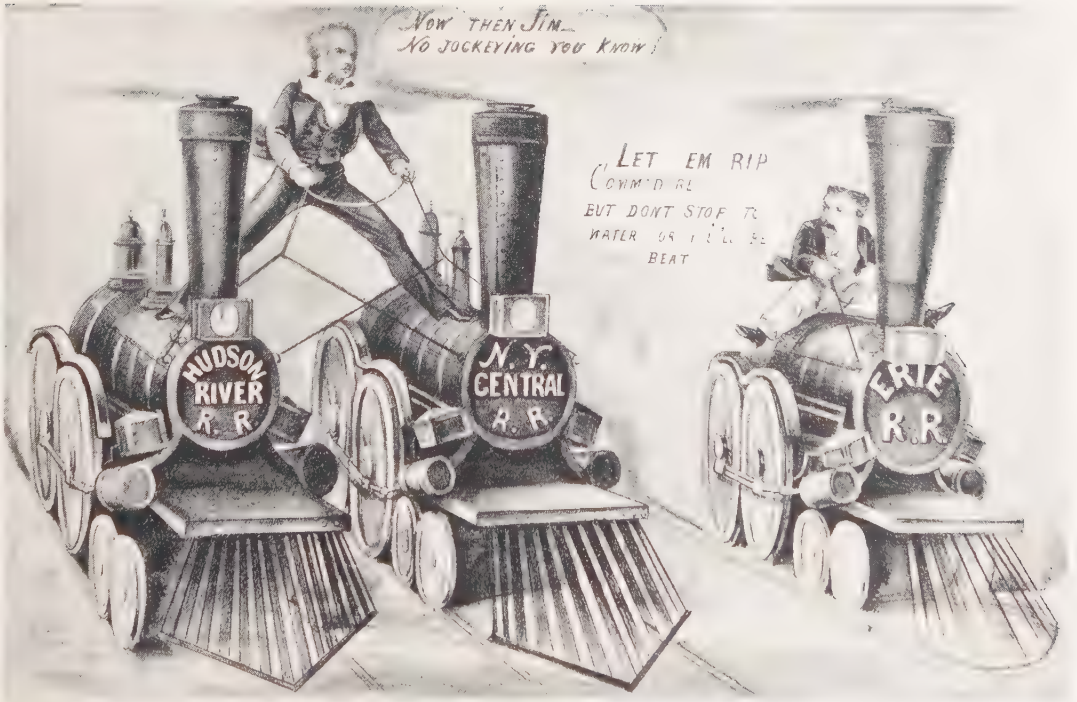
out where they stood. What they found out was that neither side had won. The Morgans and Kuhn, Loeb agreed not to call for delivery of the short-sold Northern Pacific shares. If Morgans converted all their preferred into common in January, they would be up against litigation by Harriman. If Harriman, by virtue of his holdings, forced earlier action to forbid change from preferred to common by the finance board, he would be up against lawsuits by Morgans. Both sides could quit without "tearing up Wall Street." Because Morgans had not bought above the real earning value of the Northern Pacific, they could quit without loss. Because Kuhn, Loeb could sell at the real value of Northern Pacific far above the price first paid, they could quit with profit. I do not quote the long conferences and tables of figures. They can be found in the lives of Hill and Harriman; and they agree. The arrangement was not fully worked out until well on in July.

Meanwhile, Wall Street and the country in general had time to get over an attack of nervous prostration and digest some wisdom from the experience; but the lesson to both Hill and Harriman drove home the fact that for the future protection from mad raids they must consolidate their respective families of lines into securities that could not be raided. Hill had his Northern Securities Company incorporated by November. We know how they were attacked in March, 1902, in a Federal suit which was taken up to the Supreme Court. In 1904 the court ordered such consolidation dissolved. This also hit Harriman's rail

group of Union Pacific and Southern Pacific. Later acts compelling one line to divest itself of holdings in other lines are doing much the same to-day.

It is almost ironical to have to record that the Transportation Act of 1920 is now ordering done what was anathema in 1902. It is the best example I know of keeping politics out of rails and rails out of politics. Nothing forced the action of the Federal government in 1902, but the furor of soreheads from their own folly; and if space permitted cases could be cited where lawsuits and injunctions were begun for no other purpose than to give two or three notorious " pool manipulators " a chance to raid the sued companies. I refrain from giving the names of these manipulators, for they are unworthy of even infamy in history; but it gives me great joy to add that in spite of their prestige in press and Street, of their claptrap glory in headlines as " wizards and millionaires over night," of their tips of fifty dollar bills to hotel stewards and waiters, of their palaces in Atlantic seaboard resorts and Western cities (which, the press always neglected to add, were avoided by well-bred neighbors as if housing smallpox), such gentry died ruined, the pensioners of their families. Later, for war tricks, one served a term in the penitentiary. Occasionally, when news was scarce, another would get a reminiscent interview with himself in the press; but the public has a short memory for fools and scamps. " Who was the old party? " " Oh, yes — chap who swung the raids on Southern Pacific, or United States Steel, or bit off more than he could

Vanderbilt and Daniel Drew were the two great rivals on the Hudson for the early steamboat business. This old print shows one of the Drew steamboats sailing beneath the Palisades.



THE GREAT RACE FOR THE WESTERN STAKES *1870*

This cartoon indicates how our fathers felt about the railroad kings in the 'seventies. The two contestants for Western stakes are Commodore Vanderbilt and Jim Fiske.

chew in the Northern Pacific corner "; and the names went down to the junk heap of oblivion, where they belong.

When Harriman ultimately sold Northern Pacific stock, in 1905 and 1906, the shares were selling on the Exchange at 230. The profits to the Union Pacific were about fifty-eight million dollars — as a shrewd critic now on the Interstate Commerce Commission said at the time, " licked in a fight with a colossal fortune as the result." It explains how the Union Pacific was enabled to buy the securities of other strong lines like the Santa Fé, the Baltimore and Ohio, the St. Paul, the North-Western, the Illinois Central, the New York Central, to the amount of over one hundred thirty million dollars which could not be described or attacked as a violation of anti-trust laws suppressing competition.

Harriman's heartbreaking clash with President Roosevelt must be given with the first years of the Interstate Commerce Commission's activities. How Harriman, in the midst of these life battles on rails, swung all his frail and waning strength into helping San Francisco after the earthquake and fire of 1906, sending out of San Francisco more than two hundred thousand refugees free of all costs; and then plunged into the saving of Imperial Valley from an inundating sea just when the Federal courts were saying that the Southern Pacific, which was doing the saving job, could not be permitted to remain in the Union Pacific group — are not essential parts of the steel rails' progress. They only illustrate the tremendous scope of

that progress from little links in the 1820's to administrators of empire by the 1920's; but the Angel of Records had sounded Mr. Harriman's call in 1909. The flame of the spirit burning brightly to the end quenched suddenly on September 9, 1909. He died peacefully in his home on the Hudson as a warrior going to his rest.

Someone once said of John D. Rockefeller that before he dies, in the interests of race history, he ought to be made to give his own life record of successes and failures, of mistakes and chance luck and carefully thought-out wisdom as to this or that course, for the future guidance of men. Like Hill and Harriman, Rockefeller's life was too essentially based on truth and facts for him to lie. He never fooled himself; and such a life record he has left to be given out when antagonisms die down. It is the tragedy of both Hill and Harriman that both lived at such frantic pace to the very end, neither had leisure to con over his life and leave its lessons as headlights for the future. Their biographers did the best they could with written scraps of records, but behind the visible acts of every man is the guidance of his own spirit, the why of this or that decision, the reason of this or that quick move on the checkerboard of life. Unless the actor tells that secret himself, it is lost to human annals, and few men see themselves clear enough of vanity and conceit and self-delusion to know whether their success was the result of the knockabout of chance or the harnessing of chance to their own aim. Hill and Harriman were both honest and clear enough thinkers to have left

such a record. Hill died in the zenith of his power, so little dreaming death was near that he did not even leave a will. He died like Rhodes, so frantic to finish his life job before the Shadowy Figure beckoning at his bedside could call him away that not one scrap of his inner life is left to the world.

Good intentions count not one feather's weight in the Last Assize. "By their fruits, ye shall know them."

PART VII

Modern Buccaneers in a Later Era

Chapter XXVIII

Legal Rascality, Loaded Dice, Light-Fingered Finance, And Modern Buccaneers. How The Interstate Commerce Commission Came Into Being. 1888–1914

IT is now necessary to "telescope back," as the movies say, or to "switch back in order to go forward," as the railroad man puts it.

Americans are regarded by superficial observers as rashly hasty in legislation. Quite the contrary is true. Americans are terribly hasty and rashly irresponsible in political accusations and counter accusations; but they are very deliberate and almost laggard in corrective action and court verdicts. When as many as forty thousand new laws a year are proposed in the various states and some twelve to fourteen thousand new laws are yearly passed, this tardy action is a good thing. It is a buffer brake on precipitate, blind stampede before the impetus of passion, prejudice, trickery. It is really the stolid horse sense of the middle-of-the-road man, who wants to be sure where he is going before being hurled in the ditch by fanatic partisans on either side. Otherwise the daily life of democracy would be strangulation by regulation.

Exactly what did the Grangers demand from rails? The whole history of the Granger movement can be found in a book by one Martin, whose real name was J. L. McCabe. This was evidently issued as the official embodiment of Granger sentiment in 1874. Omitting

all the hotshot, the demands of the Grangers boiled down to several main points.

Equal mileage rates for long and short haul. We have that to-day, subject only to slight modifications in blanket rates from Chicago to the Atlantic seaboard, without which the Western farmer might lose his Eastern market.

Rates based on moderate profits. The Transportation Act of 1920 names but *does not guarantee* that profit slightly over five per cent.

Reduction in rates. Examples of the reductions in rates have been given; and when the rate slashings occurred, which lowered revenues to less than the cost of running a train, much of this fury died of its own fires. Of all the great rail systems in the world, rates in the United States on a ton of freight for one hundred miles were the lowest — a third of the charges for England, France, Austria; less than half the charges for Germany and Rumania. While all rates advanced slightly after the Great War, that proportion still stands in spite of the fact that foreign rails can combine with steamship lines to get a lower cost by operating rails and ships in combination. American rails are forbidden from doing this by law. Anyone who wants the figures can get them from Interstate Commerce Commission reports. I refrain from giving them simply because they are subject to revision at any time by the Interstate Commerce Commission.

Periodic revision of rates. This is now possible on petition of any plea, before the Interstate Commerce

Commission; and to the amazement of coal carriers to the Lakes and Atlantic seaboard in 1928, they were denied the right to reduce rates.

Limitation of dividends. The limitation of dividends on purely traffic returns has already been given.

Division of profits with the public. While the Transportation Act of 1920 does not guarantee profits slightly over five per cent, it does enact that traffic returns above that five per cent shall be appropriated and applied in certain ratio to help weaker lines. Whether this will stand in final appeal to the Supreme Court remains to be seen. Whether it is fair to compel an honest well-managed rail company to divide its profits with a rail wrecked by rascality or destroyed by boneheaded management also remains to be worked out.

Fair and square interchange of traffic with all other rails; no blocking by rivals; no favors to friends. This is now the law of the land and subject to the Interstate Commerce Commission on any humblest shipper's plea.

The publicity of rates. This is also now law and subject to penalty when violated.

Rebates to special shippers forbidden. This is also subject to penalty.

Consolidations forbidden. We have already seen how in the Roosevelt régime consolidations were dissolved and how later, in the Transportation Act of 1920, they were ordered to go ahead.

All the basic demands in Granger agitation from 1873 to 1887 have been enacted in law.

Now jump forward to our own generation, prior to the Great War. It is just as interesting to see what the Radicals in our own day demanded from rails. Nor is there any use in calling these Radicals hard names. They, too, had ground enough in all conscience for demanding changes. They had witnessed legalized rascality acting in the dark, great promoters playing the game with the loaded dice of light-fingered finance, modern buccaneers sending the shareholders walking the plank into the black seas of ruin. Perfectly true, in the modern case, it was not the shipper who was scuttled. It was the honest investor, the little shareholder, the bondholder; but the result was the same — thieves got away with the goods; and the honest man got away with his pocketbook slashed and only small change, if any, left. This story will be given in full presently. The point to emphasize is — the Radicals were sincere. Another point to emphasize — many of the Radicals would not go so far in 1928 as they did in 1913. Then the demand was for nationalized rails as a remedy. To-day, it isn't. People witnessed nationalizing during the war and they did not like the results. Much less did they relish crippled service at higher charges. If it be argued that in peace nationalized rails would present a different picture, the answer is a fact. In peace since the war, they haven't. Nationalized rails, even at much higher charges for service than in the United States, have not paid, with the exception of Italy; and our people would not care to see American rails pass under a Mussolini régime. If it be said German rails

paid in 1927, to that statement should be added two other facts. They only paid if you do not charge against them interest on money put in by the government. Even then, the rates were raised and had to be still further raised for 1928. Also when to-day over eighty per cent of all rail shares and bonds are owned by the general public, not by little inside rings, we pretty nearly have voluntary national-owned rails without government-owned rails. Also when you look up the figures on which private investors own rails and find the average investor's holdings are closer to thirty-five hundred dollars than to five thousand, you begin to realize who really owns the rails.

Let us see then what were the demands by the Radicals on rails in our day.

That the railroad be regarded as a public highway. This was tried out in both Massachusetts and Pennsylvania in the early days of rails and failed utterly.

That the rails cannot be privately owned, but must belong to the sovereign power — the people — just as much as the public highway. But the Constitution guarantees a man's rights to his own property and unless the public pays him for that property, his private property cannot be confiscated; and that guaranty has been the bulwark of human liberty since the days of Magna Charta. Russian and Mexican experiments and experiences have not increased men's desires to break down that bulwark of human liberty.

The public owns the public highway, therefore it owns the rails. The public builds the public highway

with its taxes, but it does not build the rails with its taxes. In fact, the rails pay an enormous quota of taxes to be used for the public highway on which run motor buses and trucks — its rivals. With the exception of one state in the Union — Washington — motor taxes do not even cover repairs to the public highway. It was the private investors' money built the railroad — in the case of Pennsylvania, in such small contributions as from one to five dollars. Besides, the state building and operation of rails was tried out in almost every state in the Union from 1828 to 1869; and ended in disastrous losses in every case. The state handed the job over to private enterprise such as it was; and such as it was, with all its blunders and losses, private enterprise did the job.

Excess profits belong to the public. This dictum has been embodied in the Transportation Act of 1920, but whether it will hold in the final findings of the Supreme Court remains to be seen. What profits are really depends on valuation; and the Federal valuation of rails has proved just twice as great as the Radicals who demanded Federal valuation estimated rails to be worth. Just here an ironical fact should be recorded. It illustrates the danger to its friends of putting up a theory for a fact. There were probably never any sincerer Radicals on the face of the earth than William Jennings Bryan, Senator La Follette, Charles Edward Russell. Yet over thirty years ago in a celebrated Nebraska Case before the Supreme Court, when costs of rail material were far below the costs of construction during the Civil War era, Mr.

Bryan got a ruling established by the Supreme Court that rates must be *based on costs to reproduce rails, not on what it had originally cost to build them.* Mr. Bryan hoped to get rates established low on that basis. Now when costs to reproduce are up easily three hundred per cent in wages and one hundred fifty per cent on material, that ruling compelled the Interstate Commerce Commission in its recent valuation to obey the Supreme Court. To use a slang expression, " the boot was on the other leg." It is one of the best examples I know to prove that you cannot cut facts to make them fit a pattern theory. The theory to be workable must accord with facts; or the facts will smash the theory. Especially is this so in the case of an organic, living, growing thing like rails.

Next, said the modern Radical, the railroad is the successor to the old turnpike road — to which the railroads might respond: " Ye gods! if that were so, we might limit baggage to fourteen pounds; we could charge passengers on short distances ten cents a mile and freights twenty cents a mile. We could charge on a ton of freight from New Orleans to Fort Benton three hundred dollars " and such scales all along the line as would make a rail investor a millionaire overnight. Suffice it to say of that Radical demand, if any rail attempted to enforce it, the steel would be torn from the tracks in a week and the stations burned by an outraged public. Again it illustrates, in an organic growth you cannot cut facts to fit theories; but it is only fair to add that few Radicals to-day entertain

the same theories held prior to the Great War. With all our blunders, we are nevertheless blundering forward. With all our stumbling, like a child learning first to walk and then to run, we are falling upstairs, not down. With all the rear kicks of accumulating experience, we are being lifted, not thrust down and out.

There isn't a doubt that the agitation of the old Granger era prepared the way for the coming of the Interstate Commerce Commission. It had to come. Over forty different states had over forty different sets of laws regulating rails. Strangulation by regulation was becoming a daily nuisance. It would have required the entire time of a staff of attorneys to determine what a rail could or could not do. What was legal in Illinois was not legal in Wisconsin and Minnesota. California had one set of laws as to charters, Kansas another, and Kentucky yet another, which permitted a railroad in the seventies and eighties to bond pretty nearly anything except the moon. Hundreds of examples of such contradictory laws could be given; but as many have been changed, such cases would clutter up the story. They can be found in the Carnegie Institute Report or William Washington's almost complete compendium down to 1911, both of which are impartial; or in *Ringwalt's Compendium,* which is avowedly a rail book.

Space does not permit the full story of the gradual extension of the Interstate Commerce Commission's control in the regulation of rails. That, too, came as an organic growth to meet the needs in each era. The

act creating the Interstate Commerce Commission was passed in 1887. It was acknowledgment of the fact that only the Federal government could exercise complete control over interstate traffic. As a matter of name, the word " interstate " is misleading. What the Act implied was not *in* each state but traffic passing out from state to state. Now, for instance, could a shipper with a grievance in California sue a road chartered in Kentucky? He could chase it up from court to court to the Supreme Court; but that took money. It also took time. Like Dickens' famous *Jarndyce vs. Jarndyce,* the verdict might require a lifetime. The first commissioners chosen by President Cleveland represented every section of the country; and that precedent has been followed ever since. In every case they were men of wide experience in transportation. In only one case since 1888, has there been appointed a man who had had no experience in transportation; and that may have been to create an umpire in a tie vote or minority report, or to represent the simon-pure public. By the recent Transportation Act of 1920, the number of Interstate Commerce Commissioners was increased to eleven.

The first trouble in the functioning of the Interstate Commerce Commission was that, though favors and rebates were forbidden by law and rates had to be made public and could not be changed without notice, the Commission's power to secure evidence and impose penalties was so slight it was hampered. Whether it was a " tail to wag the dog," or " a head to growl at the rails," the tail was wired down or the

dog muzzled so it could not fight. The Commission had to get power to prescribe fair rates. This came in the Elkins Law of 1903. Then came the Hepburn Act of 1906 putting pipe lines, switching, maximum, minimum, joint rates under the Commission, with immediate appeal to the Supreme Court in case of suits and publicity accounts; and finally the Transportation Act of 1920. Minor amendments to all these Acts gave the Interstate Commerce Commission absolute power over rates, valuations, the issuance of securities, " watered " stock, almost any sort or condition on plea from an aggrieved shipper; and the Act of 1920 authorized the very consolidations which the courts had been outlawing. It is rather ridiculous to have to set down that the Sherman Anti-Trust Law of 1890, which was invoked to break up consolidation, was not aimed at the rails but was used against them as the result of rascality, light-fingered finance, and buccaneering on the part of promoters, who were no more true rail builders than the scavenger birds that hover over fighting armies.

The question at once obtrudes on the mind, if courts were not debauched, sold on the auction block to the highest bidder, how could all these forms of fraud come in the modern picture of rails?

Keep that question in your mind like a fishhook in a sore finger. You are going to need that wounded finger presently to index some bitter lessons learned in very recent experiences, which shall be set down without excuse or blame, extenuation or exaggeration.

Every big rail company and every big rail banker

in the country welcomed and approved the extensions of power to the Interstate Commerce Commission. It gave them a stable base for action. It took rails out of politics. It protected securities from the raids of knaves, plunderers, gamblers, and leather-lunged fools. For the first time in a century's history, it gave them protection within the law. By 1900, only fifty per cent of the rails in the country could pay dividends. Meyer gives the number of bankrupt rails in 1896 as 169. In that year some rail stocks now earning five to seven per cent were selling at twenty-five cents for a hundred dollar share. Something had to be done to protect the rails.

And yet — and yet — tragic to relate, by 1910, thirty-nine rails had gone in the hands of receivers by what can only be described as rascality. If you add to that number the casualty list to 1926, there were easily forty rails that went down to ruin by the devious route of bad finance; and to that total you can add two more that were honest failures, and one that didn't go in the hands of receivers but caused more widespread ruin than many that did.

I need not add that the two honest failures were the Canada Nationals and the Chicago, Milwaukee and St. Paul; and the one that did not go in the hands of receivers but caused great ruin was the magnificent old New York, New Haven and Hartford.

To put it more startlingly, the St. Paul comes cleanest out of the mess of failure; the New Haven and Hartford, blackest and most tragic; the little but

numerous groups of Southwest rails the most inevitable, but not so widespread in ruin. Of the Southwest group, one need name only a few — the Kansas City Southern, the Missouri, Kansas and Texas, the Missouri Pacific, the Western Pacific, the Chicago and Alton, the Denver and Rio Grande, the Texas Pacific. The Canada Nationals do not come in this story. I mention them only because they are often erroneously cited in Congress as shining examples of successful nationalized roads. They were neither successful nor were they nationalized roads. Any land grants they inherited were insignificant, from branch lines to the Pas east or up Dauphin way west. I also cite them because they were roads that had bonds backed by provincial and federal governments, of which not one dime has been lost to the buyers. People will shriek at their record being called clean; but I repeat, it was clean. The unclean, shameless thing was the political fist — to be "greased" or it would hold up votes on those bonds; but the "grease" was not paid out of the bonds guaranteed. It was extracted by blackmail, whitemail, or whatever you call it, from the builders — both of whom, Sir Dan Mann and Sir William Mackenzie, retired ruined and broken-hearted by the failure of the great project. The roads fell into Canada's lap because they could not pay interest on the bonds and Canada assumed both the roads and the obligations. I also cite them because the cause of their failure was very similar to the cause of the old St. Paul's collapse, from a road whose stock stood at 165 for years only to fall to 8 and 16.

We can call both the Canada Nationals and the St. Paul honest failures.

Immigration had been coming to America in flood tides. The Great War stopped that immigration. That diminished expected revenues at one fell swoop.

The war did more. It wooed from the farms along these lines soldiers for the firing lines and workmen for the higher wages of the factory. In Canada, we know such loss of settlers did not fall far below eight hundred thousand. Men simply jumped their homesteads and quit. In the United States, we know such loss of settlers in the West did not fall far short of six hundred thousand in a single year. In shipments of farm output alone that loss was staggering to the revenues of newly extended rails. I do not know what the value in shipments from a three hundred twenty acre farm totals in freights for all parts of the country; but in settled sections of the Northwest, what a farm of that size buys and sells totals in freight over seven hundred dollars a year. Even if only a proportion of the total loss from abandoned farm areas fell on the St. Paul and Canada Nationals, such loss on newly extended roads was enough to send solvent established roads staggering to their knees. Rates could not be raised at the time; for the remaining farmers were themselves staggering under higher costs; and when farm prices collapsed after the war, the same rate increases for the West as for the East were out of the question.

But that was not the whole tally of loss from the war. Neither road was complete when the war broke.

The St. Paul was finishing its extension to the Pacific Coast with electrification of 649 miles of the line from Montana west. The Canada Nationals had their trackbed down and rails laid — and for the most part magnificently built; but stations had to be built, trestles to be filled and replaced, curves to be adjusted, sections subject to yearly washouts rebuilt or bridged or blasted out of solid rock from the opposite side of some torrential river. I crisscrossed some of these sections in a punt over such canyons and rapids and saw them myself. When the war came, wages went up three hundred per cent and cost of material one hundred fifty per cent; and both these two roads could sell neither bonds nor stocks. Their backs broke under the burden; and that is all there is to tell.

I know a shriek went up to high heaven about both roads being looted by corruption; but in most exhaustive hearings — Parliamentary debate on the Canada Nationals, Interstate Commerce Commission examination on the St. Paul — not one such charge was sustained.

But here as usual comes in another example of facts not fitting theory on rails, and theory falling with fearful loss on its own authors. In the hearings before the Interstate Commerce Commission in 1927 on the collapse of the St. Paul, the attorneys for the eleven thousand miles of the fine rail crossing twelve states drew attention to the fact that from 1921 to 1925 freight, through diversion from the rail to ships passing through Panama, fell almost half; but the Puget

Sound extension had really been built to take advantage of shipments west for Panama and shipments east from Panama, as well as other transpacific traffic. Just when the St. Paul was in condition to add to its revenues by carrying freight to and from the West Coast, an act of Congress forbade American rails operating ships through Panama or entering into water-rate combinations to take advantage of Panama. Foreign roads, whose taxes did not help to build Panama, could; American roads, whose taxes did help to build Panama, could not.

What states fathered that law on Panama? Chiefly those good old Middle Western states through which the St. Paul ran. Where did the greatest loss of St. Paul stockholders from value of 165 to 8 and 18 fall? On those same good old Middle Western states. The thing is laughable, but it is also pitiable and tragic; for investors past the meridian of life when they put savings into stocks cannot possibly live to see the St. Paul come back, as back it will come, from 8 to 100 and 150, just as the Northern Pacific came from twenty-five in 1896 to one hundred fifty dollars in 1906, or the Union Pacific from 20 in 1896 to 200 in 1928. It is another example of stupidity almost unbelievable in the Congressional mind.

But didn't even the far-seeing James J. Hill once refer to Panama as a pond for lily pads? Yes, he did; and he was probably thinking of all the other canals in the United States which had failed to pay their way. The whole country was ditched with such failures from the Miami to the Chesapeake. He was

probably also thinking of the utter failure of French capital to put through a Panama canal; but when he saw that the American government was going to succeed where French capital had failed, what did Hill do? He reversed his policy and bought into north and south rails.

Suppose for a moment that the Congressional mind was right, that by combination with steamship lines — their own or others — the transcontinentals tried to "fill Panama"; that is, I believe, the favorite phrase when one means use it so exclusively that by combined rates they could render almost negative its benefits in reduced rates. Just suppose that for a moment! Is it thinkable to any sane mind that with idle ships all over the world literally rotting at their own docks for lack of cargoes, being scrapped and burned for lack of cargoes, tramp steamers going their own serene way to every port in the world would not flock through Panama and underbid in freights any figure that rail-owned ships could offer? Is there a single port on the Pacific or on the Gulf of Mexico that has not its own civic-owned docks open to all comers? Does not the Interstate Commerce Commission forbid — yes, forbid with penalty of heavy fines — discriminations or favors to any line, ship or rail?

I have often wondered whose head was guilty of *not thinking* when that Panama law was enacted. The rails do not care. They will get the traffic whether it goes east through Panama or comes west from Panama; but the act does work an incredible hardship against the American shipper. His taxes helped

to build Panama as much as the rails' taxes; and if the rail-owned ships had to lower rates to meet tramp ships, the shipper would get the benefit. It isn't hard to see why the rails never opposed that Panama Act which seemed to hit them so hard.

Here we may let the St. Paul and the Canada Nationals fade from the picture; and go back to the disturbing question: How, with the enlarged powers conferred on the Interstate Commerce Commission, could there be such legalized rascality, piracy, and buccaneering in modern rails as was witnessed from 1900 to 1914? It is a much sadder story than the oft-told tale of the early Erie. There was some excuse for those " old birds of prey." They were acting in a twilight zone when it wasn't yet clear what was legal and what was not. Some were buffoons. Some were thugs. Some were thieves. Some were hypocrites. Some were gamblers; but not one of the modern crowd can be put in these classes. These moderns knew what they were doing and they knew they were doing wrong; else they would not have acted in the dark and destroyed their own records, or used dummy girls and boys in their offices to close deals for millions, when the youthful check manipulators had never before handled deals in their own names exceeding thirty to forty dollars a week. They knew they were doing a damnable wrong to the innocent investor, whether in stocks or bonds. They knew they were shaking the faith of the public in rails for ten years. They knew and they did not care, if only they could get away with the goods.

It seems almost a pity to drag these skeletons from their dark closets; for there are very few of the wrecked lines that will not or have not come back to their primal prosperity. As Mr. Loree says, probably thirty thousand miles of unneeded lines have been built in the United States and will have to be abandoned or supplanted by the motor truck; but that is a very small proportion out of two hundred eighty-five thousand miles of rails; but the school of failure teaches just as many lessons as the school of success. If all angles of the picture were not viewed, this would not be a true picture of rails' progress as "a pillar of cloud by day and a pillar of fire by night" leading the race to higher destinies.

From now on we must follow chapter and verse. Take the New Haven and Hartford first.

Says the Interstate Commerce Commission in its investigation of 1914:

"The New Haven System has more than 300 subsidiary corporations in a web of entangling alliances . . . many of which were seemingly planned, created, and manipulated by lawyers expressly retained for the purpose of concealment or deception . . . the witnesses were in the main hostile . . . and their testimony was unwillingly given. . . . The result of our research has been to disclose one of the most glaring instances of maladministration revealed in all the history of American railroading. . . . Many instances were uncovered of violation of the laws of different states. . . . The difficulties are wholly due to its own mismanagement. Its troubles have not arisen because of governmental regulation. Its

troubles have not arisen because of regulation by governmental authority. Its greatest losses and most costly blunders were made in attempting to circumvent governmental regulation and to extend its domination beyond the limits fixed by law.

" The subject matter of this inquiry relates to the financial operation of a railroad system which on June 30, 1903, had a total capitalization of approximately $93,000,000, of which $79,000,000 was stock and $14,000,000 bonds. In the ten years from June 30, 1903, this capitalization was increased from $93,000,000 to $417,000,000 exclusive of stock premiums, or an increase of $324,000,000. Of this increase approximately $120,000,000 was devoted to its railroad property and was expended for betterments and equipment. This leaves the sum of $204,000,000, which was expended for operations outside of its railroad sphere. Through the expenditure of this sum this railroad system has practically monopolized the freight and passenger business in five of the States of the Union. It has acquired a monopoly of competing steamship lines and trolley systems in the section which it serves. The financial operations necessary for these acquisitions, and the losses which they have entailed, have been skillfully concealed by the juggling of money and securities from one subsidiary corporation to another.

" Marked features and significant incidents in the loose, extravagant, and improvident administration of the finances of the New Haven as shown in this investigation are the Boston & Maine despoilment; the iniquity of the Westchester acquisition; the double price paid for the Rhode Island trolleys; the recklessness in the purchase of Connecticut and Massachusetts trolleys at prices exorbitantly in excess of their market value; the unwarranted expendi-

ture of large amounts in 'educating public opinion'; the disposition without knowledge of the directors, of hundreds of thousands of dollars for influencing public sentiment; the habitual payment of unitemized vouchers without any clear specification of details; the confusing inter-relation of the principal company and its subsidiaries and consequent complication of accounts; the practice of legerdemain in issuing large blocks of New Haven stock for notes of the New England Navigation Company, and manipulating these securities back and forth; fictitious sales of New Haven stock to friendly parties with the design of boosting the stock and unloading on the public at the higher 'market price'; the unlawful diversion of corporate funds to political organizations; the scattering of retainers to attorneys of five States, who rendered no itemized bills for services and who conducted no litigation to which the railroad was a party; extensive use of a paid lobby in matters as to which the directors claim to have no information; the attempt to control utterances of the press by subsidizing reporters; payment of money and the profligate issue of free passes to legislators and their friends; the investment of $400,000 in securities of a New England newspaper; the regular employment of political bosses in Rhode Island and other States, not for the purpose of having them perform any service but to prevent them, as Mr. Mellen expressed it, from 'becoming active on the other side'; the retention of John L. Billard of more than $2,700,000 in a transaction in which he represented the New Haven and into which he invested not a dollar; the inability of Oakleigh Thorne to account for $1,032,000 of the funds of the New Haven intrusted to him in carrying out the Westchester proposition, the story of Mr. Mellen as to the distribution of $1,200,000

for corrupt purposes in bringing about amendments of the Westchester and Port Chester franchises; the domination of all the affairs of this railroad by Mr. Morgan and Mr. Mellen and the absolute subordination of other members of the board of directors to the will of these two; the unwarranted increase of the New Haven liabilities from $93,000,000 in 1903 to $417,000,000 in 1913; the increase in floating notes from nothing in 1903 to approximately $40,000,000 in 1913."

There is no use giving details of the financial transactions except in the summary of the Interstate Commerce Commission.

" The enormous sum $36,434,173.25 was expended for a road only 18.03 miles in extent, which is being operated at an annual loss of approximately $1,250,000. The Westchester acquisition was planned and executed by a special committee of the board, consisting of Directors Morgan, Rockefeller, and Miller, with President Mellen as chairman."

Of the actors in this episode, only one — Mr. Mellen — seems to have had the backbone to register a protest and keep his record clean; and he was a practical railroad man. Penned on the back of one of his reports were the words:

" The trouble with this is there is nothing to show who got the money for the truck turned over. I don't like the look of it, and I don't see why the matter should not be made plain. I would feel better if there were at least a disposition to let me know something more than appears in the record.

(Signed) C. S. M."

The most amazing adoption in the New Haven family was the Rhode Island trolleys worth, as Mr. Mellen testified, $6,000,000 and charged up with debentures at $19,899,000 — over $12,000,000 of what Mr. Mellen called "capitalized water."

Who got almost $13,000,000 and what were they doing with it? That was the point that troubled Mellen and on which he could not get any answer from his bankers.

Next came the adoption of a group of Atlantic steamship lines — costing over $24,000,000, which at the wildest exaggeration were not worth $10,000,000 and were ultimately sold at less than $4,000,000.

"These steamship lines were not acquired openly, but covertly and by devious methods. Dummy companies, and dummy officers and directors were used in financial maneuvering that resulted in the New Haven controlling these steamships."

Again Mellen, the practical man, advised the disposal of this junk and again the steam roller of his Board went over his advice.

Then came the control of the good old Boston and Maine, which had paid dividends for more than fifty years, had a capital of only $31,000,000 and bonds of only $34,000,000, and emerged from the mill of manipulation a financial wreck.

Says the Interstate Commerce Commission:

"The frequency with which dummy corporations and dummy directors appear in this record leads to the conclusion that some one high in the counsels of the New Haven had an obsession upon the subject of

the utility of such sham methods. The directors of the Billard Company confessed that they were dummies and knew nothing of its operations. Why men of respectability and standing as these appear to be should lend their names as dummies passes comprehension.

" In the organization of one of the steamship companies the young lady stenographer was made president; and a youth of twenty-one years of age was selected as treasurer of another company.

" Clerks and irresponsible persons were drawn upon to supply the demand for dummies in the financial joyriding by the management of the New Haven.

" Payments made for political purposes totaled a large sum.

" For instance, in 1900, $50,000 was contributed by the New Haven for campaign purposes, through J. P. Morgan & Company. No proper and complete voucher for this payment appears on the books of the New Haven Company.

" In 1904 a payment of $50,000 was made through Mr. Mellen for political purposes. This was secretly done and not reported to the directors or shareholders or in any manner made public.

" No public service corporation may rightfully use corporate funds to promote a political cause or to support a political candidate or a political party."

Mellen sickened of the proceedings, and we find his terse comment: " $1,200,000 for shares not worth ten cents a pound."

Now in every case the laws of New York State, of Connecticut, of Massachusetts, of Rhode Island were violated.

Why were there no prosecutions?

Because records had been burned.

Because in every step of proceedings, you can pick out the names of more or less secret political bosses.

Because in nine cases out of ten, punishment would have fallen, not on the authors of the wrongs, but on "the dummies," boys and girls who would have lost their jobs if they had disobeyed orders.

Let us finish the indictment of the Interstate Commerce Commission.

"It should be just as grave a crime to plunder stockholders or the public through a railroad corporation as it is to personally rob an individual."

There is no use ducking our heads to miss a boomerang. This sort of thing creates distrust of all "high finance" far more than the ignorant ravings of leather-lungs and nonstop tongues above a soap box. Examine the names involved. Each man represented great banking interests, lived an irreproachable private life, and several were public benefactors of almost notorious generosity in all other relations — art, charity, education, scholarship, church, the helpless or the needy.

Why did they sanction these curiously devious financial methods, which reduced more people to ruin than all their charity could rescue?

The New Haven did not go in the bankruptcy court and is rapidly coming back to its old-time prosperity; but how about the investors, who saw their stock in a rail they regarded sound as government

bonds fall from 174 to 9; and received no dividends for ten years? Old ladies were forced to become wage earners. Old men mortgaged little homes and lost them.

Again, if you examine the names of the directors who have since died, you will find their own estates, though large, totaling much less than anticipated.

Why did they sanction what can only be described as the methods of crooks?

I can give only a few guesses at the answer to that question; but I would not be afraid to take a sporting bet there is a kernel of truth in each guess.

The panic of 1907 had left several big banking institutions in New York not *impaired,* but shaky enough to demand strengthening and concealment of their real condition till the crisis had passed. I do not say the funds extracted from the New Haven by loading it with securities "not worth ten cents a pound" were used to repair the breaches in such financial structures; but I do say such funds deposited in such banks — and there were three of them at the time — must have rendered them secure from possible runs. That explains the secrecy, too.

At this very period, from 1900 to 1914, every rail banker in the country knew that for dense traffic areas, water power was as certain to supplant steam as steam had supplanted the turnpike; but water power demands enormous preliminary outlay in buying up farms for reservoirs and sites for dams, in building dams; and I do know that in this period there was hardly a power site from Maine to Rhode

Island, which was not bought up with ample ground upstream to provide vast reservoirs; and in many cases the dams were built. If such were the aim, the directors of the New Haven may have justified themselves that the future earnings of a line through a dense traffic area would more than compensate the enormous " capitalized water." We see this electrification rival going ahead on two of the great systems in the East.

Unfortunately, neither guess justifies the looting of two fine old dividend-paying rails by loading their backs to the breaking point with debts on which their revenues had to pay interest. The rails did not own the banks which may have been bolstered up. The rails do not to-day own the power companies from which in a few years they will be buying power to drive their swift shuttles of dense traffic.

There is a third guess, which may have some meat in it.

Hadn't Harriman taken over the Union Pacific and made it one of the greatest dividend payers and one of the best lines in the world? He did; but he did that in his fifties, when he had an expectation of at least ten years of life to carry out his plans. When he tried the same thing with a Chicago road, he died before his plans could be carried out and left the one great stain on his otherwise wonderful record. There was a stage of proceedings here where Mr. Mellen scented trouble ahead and hoped " Harriman should be the Moses out of all the trouble anticipated " and be left with " the fight on his hands " over these

worthless stocks; but Harriman refused to be either a scapegoat or a billy goat. Again, hadn't Morgan taken the Northern Pacific over as a bankrupt property and built up solid values from its wreckage? He did; but he did it almost twenty years prior to the wreckage of the New Haven. I am certainly not revealing secrets when I set down frankly that for one year prior to Mr. Harriman's death and for one year prior to Mr. Morgan's death, neither man was in condition physically or mentally to carry the load of anxiety and responsibility which he could have carried lightly ten years before. We know Mr. Harriman's associates urged him to retire for a year before he died; and it is also known, though it has not been placed in any formal biography, that for a year before Mr. Morgan's death he was so far from his normal health that his physicians took him on his yacht to the Mediterranean and kept him isolated from anxiety there until he died. In case this statement is challenged or denied, I could add the story of one of the greatest capitalists in the world being called by Mr. Morgan to the latter's office in this period and, because he was either absent-minded or ill, the great power of Wall Street, at whose nod men trembled, turned and asked gruffly what he wanted. It is inconceivable that a man of Morgan's power and utter indifference to money as money, who but a few years prior had taken twelve million dollars out of his own private fortune to pay for the bad judgment of underlings on another rail property, should have looted the New Haven for his own gain.

All this did not make up the fearful losses entailed on investors in New Haven; but it does drive home some lessons to all investors in rails: (1) that directors must direct and not act on one man's nod and (2) that no director, be he wise as the angel Gabriel, has the right to discount a future dependent on his own life; much less has he the right to play ducks and drakes with a great property purely on his own judgment. Otherwise any great rail banker could wield more despotic power over a vaster empire than Napoleon's armies ever commanded.

As for the associates who blindly obeyed orders from "higher ups," with the one exception of Mr. Mellen, we know they had not the means themselves to finance the water power projects which they swung. We know they were forced to act or face ruin. We know their records had been clean up to this time. We know they were the heads of banks which might have collapsed had their real condition been known; but we also know that when records are destroyed the records can never be regarded as clean. While men playing a big part in finance cannot advertise their moves to hawks and vultures and plunderers, they need not destroy the only evidence which can clear their policy of sinister motive.

AUTHOR'S NOTE

Apropos of Panama, here is what Edward Hungerford wrote of waterways and rails six years before he had had any official connection with rails: "Some day we shall have to change our statute laws, and then, instead of barring our railroads from our waterways, we shall invite, urge, implore, and if necessary compel them to use these great natural arteries . . . for the relief of their overcrowded rails."

Equally apropos of electrification on the New Haven were his words: "New England needs electrification of her steam railroads and needs it at once. The New Haven field South of Boston . . . is ripe for installation. . . . The Boston and Maine . . . offers similar immediate opportunity. . . . Power will come on the copper wire and will move the silent trains around Boston. . . ."

And yet more apropos about the innocent investor's losses in worthless rail stocks and bonds: "*About $100,000,000 might be written off in poor bonds, that either are fraudulent or else never should have been issued, while there are four or five billion dollars par value of stock certificates which to-day may be regarded as fairly hopeless.*"

Hungerford's one mistake was that he regarded rails as "sick unto death" in 1922. They didn't die. Once the Transportation Act of 1920 gave them promise of surcease from the assault and battery they had withstood for ten years, they revived like the growth of vegetation in spring.

Chapter XXIX
More Of Modern Buccaneering
1900–1923

TO go on with the story of modern buccaneering, the place has come to tell of Mr. Harriman's one bad slip. It resembles an unexpected washout in a magnificently graded line. The details of Harriman's break with Roosevelt do not belong to this story. It began in a little scrap over campaign funds. Each man was too dominant a personality to brook being crossed and when the wires got crossed without any electric insulators between them, a friendship was burned out in a short circuit that must have hurt both. The weakness of the government case against Harriman was that the Interstate Commerce Commission was " sicced " on the Harriman deals when they had already receded seven years in past history. The weakness of Harriman's defense was that, while there were no destroyed records, no dummies and all the other familiar devices of crooked finance, the Interstate Commerce Commission found a magnificent rail property wrecked.

Roosevelt must have known that much was going on in the rail world which would not bear the light of day and with characteristic fury " sicced " the Interstate Commerce Commission on the biggest game he could find. They found big enough game to satisfy the big game president.

To quote again chapter and verse:

" The Union Pacific Railroad Company in the year 1903 became the owner of 103,431 shares of the pre-

ferred stock of the Chicago and Alton Railway Company."

The Chicago and Alton had for years paid an eight per cent dividend on outstanding stock of over twenty-two millions. Its debt was ridiculously low — just over eleven million dollars. The character of the road and the revenues available from such densely settled territory need not be given. I have traveled over it twice in the past years and it was not " a puff-ball ready to dissolve in dust," as one of Harriman's apologists describes it. It was not one of the luxury transcontinentals, but a more comfortable, a more courteous little road with finer service it would be difficult to find.

" About this time Mr. Edward H. Harriman, Mr. Mortimer L. Schiff (representing Mr. Jacob H. Schiff), Mr. George J. Gould, and Mr. James Stillman, formed a syndicate to buy this stock, and bought it for $200 a share for the preferred and $175 a share for the common, making the total cost of the shares purchased $39,042,200.

" In about seven years, to June 30, 1906, the outstanding capital indebtedness of this company was expanded from $33,951,407 to $114,610,937, or an increase of about $80,660,000, and there was expended in actual improvements and additions to the property out of this capitalization only about $18,000,000 leaving an increase of its stock and liabilities, without one dollar of consideration, of about $62,660,000, or $66,190 per mile on the 946.66 miles of road owned by the company on June 30, 1906."

For sound finance, fifty per cent of stock and fifty per cent of bonds is regarded as a perfect balance.

Here was a road with only half as much debt as it had assets. The increase of its debt was as easy as taking candy from a baby. The bonds issued were increased at once to forty million dollars. The syndicate selling the bonds took profits of eight million dollars, "which," says the Interstate Commerce Commission, "should have been reaped by the railroad. . . . The stockholders then voted themselves a dividend of thirty per cent." The excuse given for the increase in bonds was to extend construction; "but no proceeds were left to raise money to construct the line contemplated." Under a new Chicago and Alton, the debts stood in six years at over $113,000,000.

"From this brief synopsis of the exploitation of the Chicago & Alton, it is evident that its history is rich in illustrations of various methods of indefensible financing. . . . The total of bonds and stocks was doubled."

Chicago and Alton sells to-day at 8 for common, 11 to 13 for preferred. Comment is superfluous. This was one of the cases where Mr. Harriman almost at once let go of the property he had bought. In 1904, it passed in the hands of the Moores and Reed of the Rock Island. Harriman undoubtedly intended to spend fifty million dollars in making the Chicago and Alton one of the great links in his dream of a world rail and water system; but like the dream of the New Haven for a far future, he loaded his mule too heavily for its back, and broke it.

The Chicago and Rock Island is another of the

beautiful examples of wrecking the present by discounting the future, which no director has any moral or financial right to do with other investors' property.

" In 1902, the main line of the Chicago, Rock Island & Pacific Railway Company extended from Chicago to Denver, with branch lines to St. Paul, Minneapolis and Kansas City. The territory served is one of the richest and most prosperous in the country and the system's ramification of branch lines insures to it a large volume of tonnage. It was then thriving and its prospects were promising, its stock selling in the markets of the world at more than $200 a share. In 1914 the shares had fallen to $20 and the road is now in receivers' hands. The evidence shows that the earnings of the railway company have steadily increased, and that in 1914 they were the largest in its history."

Capital was about fifty million dollars in 1901. It had been increased to almost seventy-five millions in 1914. Debts were over sixty-three millions in 1901. They were over two hundred thirty-five millions in 1914. Mileage had increased only from 3,128 to 5,367. As a " get rich quick " operator might declare, who would not be a rail promoter under a fairy wand that doubled stock and quadrupled debts, and took the profits and left the roads' revenues to pay the debts?

To quote the Interstate Commerce Commission again —

" On June 4, 1902, the capital stock of the railway company was increased to $75,000,000 and the board

authorized President Leeds to sell to certain individuals portions of this increased stock at par, although at the time the stock was quoted on the market above 175."

Salaries and bonuses to officers were paid as freely as dimes to office boys; but the officers' tips ran from seventy-five thousand dollars to thirty-five thousand dollars. And, of course, " books were burned at the end of each month " and such cryptic statements given out to shareholders, that even a lynx-eyed investor might be treated as a spy, a snooper, an impudent Paul Pry if he asked humbly what was happening to his own property.

It was an era when intoxicated financing seemed to go hand in hand with a moral sense as dead to legalized theft as any Captain Kidd of the piratical high seas drunk with rum and indifferent to victims rich or poor. Human nature does not change much under its garb of civilization. When we read the wildest ravings of the Radicals, we must remember that if you kick and bludgeon even a good dog, he will turn on you; and you must not squeal too loud if he takes you by the throat.

So we could go on down the list of the Pere Marquette, the Cincinnati, Hamilton and Dayton, the Denver and Rio Grande, the St. Louis and San Francisco, and the groups of Southwestern roads, which come rather in a class by themselves.

To epitomize some of the evidence:

" The Pere Marquette came into being as a con-

solidation of three relatively unsuccessful Michigan roads and began operation on January 1, 1900." Here stock was increased four times over and debts five times over in twelve years. Two receiverships followed in quick succession.

In connection with heroic endeavors to rescue the Pere Marquette and the Cincinnati, Hamilton and Dayton, Mr. Morgan did one of the magnificent acts in his rail financing. He had thought sections of these roads could be embodied in the Erie for whom he was acting. When he found he had unloaded on the Erie a very bad bargain, to quote the Interstate Commerce Commission:

". . . In his magnificent, unparalleled, and absolutely voluntary offer himself to assume the entire purchase, and to relieve the Erie Company from all contracts and cost in connection therewith."

The generosity cost him twelve million dollars. Said President Underwood:

"Several days before the rescindation process was had, I talked with Mr. Harriman in his office in the Equitable Building. Now, I can not give you any idea where he had been in the interim, but I very distinctly remember my conversation with him. I could not forget it, nor you could not forget it, if you had heard it, about what was necessary to be done. He said, 'You made the trade with Mr. Morgan yourself. No one was present. You had better go and see Mr. Morgan, and you had better not depend on anyone else but yourself. It is up to you. You had better go and better go now.'"

The record also clearly indicates Harriman's emphatic disapproval of the purchase upon his return in November, with the result that President Underwood obtained another interview with Morgan, as to which he testified as follows:

" Then I went down and had an audience with Mr. Morgan, and I told him that practically the Cincinnati, Hamilton and Dayton had a floating debt that was not visible and in the statement he showed me. He said, ' Well, we will look at the statement,' and there was some attempt made to find that statement, but it was unsuccessful; it was not produced. I had not kept it — well, I did not keep it. I said: ' Mr. Morgan, the statement that I made to you of the effect of the acquisition of the C. H. & D. on the Erie's finances is null and void, because the statement was inaccurate.' He looked at me and said: ' Well, sir, if the statement that we made to you was inaccurate, and for any reason you think that the Erie Railroad has made a bad trade, your duty is very simple — you have only to convene your board of directors and rescind it, and I advise you to do it at once.'

" I bade him good afternoon and walked out of his office, and as I came out of his office I met Mr. Stetson, and I told him, being counsel. ' Mr. Morgan has just authorized the rescinding of that trade, and I think it was a very unusual and extraordinary thing for him to do. I am surprised that he would do it. And I wonder if it would be bad taste for me to tell him that.' He said: ' He might like to hear it.' So I went back, and Mr. Morgan was standing with a paper in his hand, and I said, ' I would like to speak to you for a minute.' He made no answer. I said again, ' I

want to speak to you for a minute.' I said, ' I want to tell you I think you have done a very big thing, the biggest thing I ever came in contact with.' He said nothing. I said, ' Did you hear me? ' He said, ' I did, sir.' And I walked out."

To summarize the conclusions of the Interstate Commerce Commission:

" The exploitation in 1903, 1904, and 1905 of the Pere Marquette and the C. H. & D. was not an incident of railroad construction. The properties had long been established. Whatever control or regulation of the issue of railroad securities was exercised by the states in which these roads operate was inadequate to prevent the exploiting or to forestall subsequent hasty and unwise reorganization. To the extent that these flotations ultimately lodged in the hands of innocent investors, whether here or abroad, the public was deeply wronged. Whatever control or regulation was had of the properties and operations of the two roads was not sufficient to keep them in condition to satisfactorily serve the population dependent upon them. The result has been the same with each financial disaster to the carriers, serious loss to the holders of their securities, deterioration of their physical properties, and a marked impairment of ability to perform their functions as public servants.

" Nothing disclosed in the record before us is to be more regretted than the readiness of great banking institutions in our financial centers to loan enormous sums of money upon exceedingly precarious security in aid of such schemes as have been devised in the wrecking of these roads. Not only this, but the high officers of such institutions, while acting ostensibly as directors of the railroads, have in fact been little

more than tools and dummies for the promoters. The trustees of other people's money seem to have had little compunction about violations of their trusts for the benefit of the promoters, and at their demand."

The Southwestern roads — the St. Louis and San Francisco, the Western Pacific, the Denver and Rio Grande, the Missouri Pacific, the Kansas City groups — which fell into distress between 1900 and 1920 belong in a slightly different category. There were factors in the failures of these roads not to be ascribed in the slightest degree to rascality or "high finance," though buccaneers and vultures hovered on their flanks for a picking of bones, and certainly in one case a notorious Wall Street broker behind closed doors besought the sponsors to force a receivership by raiding the stock market, then if possible wrest control for a reorganization; and in another case, rival blocked rival in terminal construction and left the stranded orphan with bonds which fell to European investors from one hundred dollars to forty dollars during the war, when Belgian banks were unable to hold on. I do not specify these lines because all under new management are not only now solvent, but on the way back to a high degree of prosperity.

Among innocent causes of decreased revenues was the Mexican Revolution, which cut off a great deal of freight northbound — cattle, sheep, other stock shipments that used to come north in spring, fatten in the uplands of New Mexico, Arizona, Colorado, and go on to market in the autumn. Lumber used to be a great revenue from Northeastern Texas and Arkan-

sas. Such lumber areas were pretty well logged off by 1914, and the big operators were beginning to move to the Pacific Northwest. Irrigation and a land boom were rapidly repeopling much of this territory, when the war stopped both. It also made impossible the selling of stocks and bonds. While Texas and Oklahoma oil seemed to, and ultimately did, give a new source of revenue, oil went by pipe lines to the Gulf; and if you recall the war days, oil was one of the few land products held down in price in the interests of the Allies; and this in turn stopped "wildcatting," or the development of new oil areas, which came in floods soon after the war. The planning of town sites, which might have gone ahead with a great influx of immigration, was arrested by the war. I could tell of an enormous section of Texas lands held by one of the richest bankers of New York, which went on the market at this time as a result of collapsed values. Mineral output, which used to give the Denver and Rio Grande great traffic, had another collapse. Loans piled up. Traffic returns didn't. Among the primal causes of distress quoted by the Interstate Commerce Commission on three of these roads were too high capitalization, sales of securities at too low a price, payments of dividends which should have been conserved against arid days. Some of the very finest names in the Southwest rail world were caught in the net of circumstances. I do not give them; for I cannot see that either rail men or their bank backers could have saved them. The fact that the same bank backers and the same rail men have since the war pulled

these properties up to prosperous levels seems to prove that good intentions in such cases were not paving the way to an unsavory destination; and you find very few harsh verdicts in the Interstate Commerce Commission reports on these groups.

The lines have prospered since the war, and that is their best justification.

Granted that two or three of the Kansas-Texas groups mainly consisted of scrap logging roads bought up at scrap prices for a few hundred thousand dollars, and were then recapitalized without capital cash going into them but rather rebuilt by bonds issued to make them fine continuous systems from Kansas to the Gulf — the planners, no doubt, thought they were entitled to that "watered stock" for risking their all to make north and south systems out of scrap iron; and when the roads crashed, to the credit of the planners be it said, they crashed with their own structure — crashed, some of them with very sore heads and bitter hearts at the bankers for not coming to their rescue. Someone may know a single bank which dared take risks on rails in the World War era, I don't. The prices of stocks and bonds of some of the strongest rails in the densely populated East fell to the lowest level in all their history. One name I could give but do not because the man's record seems blameless, where the promoter of a great Southwest system died with an estate of less than $1000. When he began to buy up the links in his chain of Kansas roads, he was worth a million.

More to the point is the question, can such a de-

bacle as forty roads going to wreckage in twenty years ever happen again in American rails? In an attempt to get the true answer to this question, I presented a series of queries to various departmental specialists in the Interstate Commerce Commission in 1927.

Here are the queries, and their answers:

Does the Interstate Commerce Commission keep record of the stockholders in each rail? — It cannot keep record of the daily shifts in a daily market; but it does keep record and publishes the twenty heaviest holders in each rail.

Does the Interstate Commerce Commission prevent one road buying control in another? — The Interstate Commerce Commission cannot prevent one road going in the open market and buying shares for sale in another road; but it can and does prevent the issuing of "inflated securities" and "watered stock" on the securities so bought.

Does the Commission control ship coastal traffic? — The Commission has no power to control coastal traffic.

Can any canal except Panama compete against rail rates? — Canals and rivers from their very natures can never compete against rails.

Do rebates still exist anywhere on American rails? — Rebates do not exist in the old form and are forbidden; but they do in special favors, and thousands of dollars are levied in fines every year for slight infractions in these favors.

Has the recapture clause of all revenue returns

over five and three-quarters per cent been proved legal? — It has not been proved legal yet.

Is the rail to be regarded as a public highway? — Absolutely not.

What control over motor buses and trucks competing with rails has the Commission? — No control.

Is the valuation of American rails yet complete? — Almost, and it exceeds the capital of American rails.

How about " watered stock " to promoters? — There is no " watered stock " in trunk lines to-day and wherever the Commission can detect it in combinations, the combinations are forbidden.

Is it permitted to issue equipment certificates, trust notes, etc., to replace rolling stock, when surpluses are concealed? — Equipment certificates can only be issued on permission of the Commission.

In consolidating new groups of rails, can an " inside ring " be prevented from loading one good rail with securities to buy worthless roads? — A new group cannot be prevented from buying other rails but it can be prevented from issuing securities at inflated values.

To what extent is " watered stock " now legal? — It can be stopped by the Commission wherever and whenever proved.

Can directors' property be made liable for rascality? — No, that comes under state law and is one of the things yet to be worked out without injustice to the innocent when punishing the guilty.

If these enlarged powers now in the hands of the Interstate Commerce Commission do not protect the investor, it is because he is too indolent or too uninformed to look up carefully the revenues, the debts, when these debts come due, the capital, of the rail in which he places his savings. It explains why all sound rails welcome the new Magna Charta of protection from rascality and why rail securities are to-day coming back to old-time favor.

I have often asked myself when reading Interstate Commerce Commission decisions on rates and consolidations: " Was the tail wagging the dog? " It seemed to be in certain cases, especially where reduced rates were forbidden; but on a careful rereading of many thousands of pages of evidence on which the verdict was given, I have concluded that " the tail was not wagging the dog," but it was sometimes wired down so it couldn't wag. One thing I did find out — whatever the condition of the dog's tail, its jaws were neither muzzled nor gagged. The headlines in the press might not report it; but wherever concealed tricks were dug out of the evidence, the dog uttered a growl that forced the tricksters to recede; and any investor can get these growls by writing to the Commission for carbon copies.

My next suggestion may seem so wildly impracticable that it will make the dog lie down in terror; but as a permanent protection to honest investors and honest rails, why not an investors' department to which any buyer of rail bonds or stocks could write *not for advice,* but for analysis of the assets and liabil-

ities of the rail he contemplates? Granted it would add to the expense of the Commission an outlay of a few hundred thousands a year — yes, even if it added a million. Wouldn't it save honest investors losses of hundreds of millions a year from prices jigged up and down in the market? The honest rails have nothing to fear. The dishonest rails would be put out of business. So would a lot of "get rich quick" manipulators and subsidized tipsters and shyster brokers playing a game of loaded dice on slim margins mostly supplied by misadvised investors. What the rails need more than anything else to-day is stable values founded on truth. The press can't get it. The Interstate Commerce Commission can; and what is more, it can be held responsible for what it gives out.

Chapter XXX
Last Thoughts

SUCH is the history of the steel rail for a century, which in race progress is a pin-point in eternity.

It is hard to realize that steel's flag of progress has led humanity farther in a hundred years than it had advanced before in six thousand years. If the lessons from the past have not been culled as the story unrolled, they could hardly be culled from a general summary.

Over human tools good and tools bad that flag has waved its long white folds — veritably and truly a pillar of cloud by day and a pillar of fire by night; but the point is — it went ahead.

The settlement of three-quarters of America would have been quite impossible without the steel rail. The prairie had neither fuel for heat nor lumber for building. Neither had it markets for produce, nor any way to get its products out to markets. In single individual states of the Middle West and the Far North to-day are dwelling in peace and plenty more people than there were native Indian races in constant raid and war throughout all America before the coming of the white man.

One way to realize the tremendous impetus to progress from the steel rail is to consider the old highways and the new. The great ancient highway was from Ur on the Persian Gulf up through Chaldea to the Mediterranean and Egypt. The great terminals on this highway were Babylon, Nineveh, Ephe-

sus, Damascus, Baalbek, Petra, Tyre, Alexandria, Memphis. The great commodity was grain — chiefly wheat and barley. When the camel caravans failed to reach their terminals, famine swept through empires. The camel load seldom exceeded three hundred to four hundred pounds. The camel caravans, even the conquering army caravans, seldom exceeded a few thousand. They could not. They would have devoured the pasturage down to the point of self-destruction and drained the shallow pools and deep wells across the desert zones lying between rivers. When we come on the vast ruins of theater and temple — which were half banks for the storage of gold and silver, and half shrines and schools and libraries for worship, education, and the deposit of tablet records in imperishable stones and burnt clays — we marvel at ancient structures, which must have housed fifty thousand people under one roof, or encircled the same number of people in an audience unroofed in a dry climate. To blame modern rails for the centralization of vast populations in small areas is hardly fair; for certainly the populations of both Babylon and Nineveh far exceeded any modern city — even London and New York combined. The ancient city had to concentrate its central hub inside walls forty feet high, wide enough at the top for eight chariots abreast; its suburbs running out two hundred miles. This concentration was the only safety in time of war; and ancient history never knew an era in which there was no war. We have only to get the measurements of the ancient city streets, barring the wide thoroughfare

on top of the walls and the main thoroughfares running out from the temples like spokes in a wheel, to realize how fearfully congested and unsanitary such city life must have been. Off the main thoroughfares, streets were crooked as a corkscrew to mislead and entrap intruders, and barely wide enough for a camel with its cargo. It is interesting, too, to recall how when the cargoes reached the terminals, payment was made by gold and silver weighed out with balances whose scale was a grain of wheat — whence we got our Troy weight of a grain of gold. The freight sheds, or exchanges, were, of course, the temples of traffic, whence the cargoes were distributed to royal storehouses, army arsenals, small merchant retailers. Silks, grain, carpets, jewels, gold, silver, ivory, copper, bronze, human slaves taken in war or raid — all came to the terminals for resale by auction or private barter; and the sin of short-weight scales was punishable by death, or death remitted on a fourfold payment with interest at twenty per cent. There was little the modern rascal has devised which the ancient tradesman did not attempt, though up to the present archeologists have dug up few jewels which show adulteration of precious metals or coins that fell to the value of modern worthless paper stocks.

For purposes of comparison we can now jump forward to the steel caravans of our own day.

The distances over the ancient highway and the modern transcontinentals and belt lines were not very different — each about two thousand miles north

and south, three thousand miles by the great bend up round the headwaters of the Euphrates, and then down through Canaan and across Suez and up the Nile through Egypt. A modern electric or steam engine can haul from one hundred to one hundred fifty cars down grade, or easily one hundred cars on level grade. Some can exceed forty tons, but we will put the average grain car at forty tons — that is eighty thousand pounds, the cargo of two hundred camels — or for the whole train twenty thousand to thirty thousand camels. The camel's greatest speed was eighty miles in twenty-four hours. The fast grain freight dashes forward at five hundred to six hundred miles in twenty-four hours. It renders famine impossible in any land where it runs. Where fifty thousand people daily passed through the main thoroughfares of ancient cities, there are two stations in New York City alone, where from two to three million people a day pass through the stations that are our great temples of traffic. In Washington, Philadelphia, Baltimore, Chicago, St. Paul, Winnipeg, Vancouver, are rail stations which are really temples of empire traffic, through whose portals pass vaster cargoes every year than ever entered the ancient cities in all their history. It is a curious throw-back to ancient ideals of beauty that in architecture all these modern terminals are more or less borrowed styles from Grecian and Egyptian types — the Corinthian fluted pillars surmounted by acanthus leaves, the portico effect between, the domed ceiling, the flat roof design, the painted or sculptured mythology, the niches for

figures of the great empire leaders of labor, industry, farm, mine, forest. In the frantic pace of modern life we may not grasp the meaning of all this; but as time goes on unrolling the pages, much of the beauty, much of the cosmic meaning will become part and parcel of our racial knowledge. The barter on our financial or grain exchanges exceeds in a single day the life wealth of a Solomon or a David, a Nebuchadnezzar or an Alexander. I do not say size is a blessing. It may be a curse. It may fall of its own proud altitude. But I do say the constant shuttle of rails has created a human expansion in thought, grasp, venture which was never before possible to humanity. Bad as our congested cave-city life may be, we have never yet been swept by the plagues which were the scourges of ancient life; and our narrowest gutters and alleys are models of sanitation compared to life in an ancient city. If you doubt this, look up the pictures of any great ancient city in India or Southern China.

What of labor, numbering one million six hundred thousand in the rank and file of rail workers, with double that number in the lumber, coal, steel industries, which purvey supplies to the rail? With engineers and conductors drawing salaries as large as the governors of the smaller states — which they should; with the chiefs of the Big Four unions drawing salaries equal to the presidents of the big rail companies, or for that matter equal to the President of the United States — which they should; I cannot see that rail

labor can be put in the slave class that constructed ancient highways.

If this record had been written ten years ago, it would have been necessary to chronicle the interminable strikes that made rail management a horror from 1870 down to 1900; but with the advent of big responsible rail labor leaders coming to the top of their own organizations, the strikes, the riots, the bloodshed, the lawlessness of the seventies, the eighties, and the nineties have passed. Labor presidents and rail presidents sit down together at a table and present demands and proposals and facts and figures, on which fair middle ground can be found, knowing full well that, if they fail to compromise fairly, the public will make short work of both. The public may not take hold of the rail and run it, though the public in England with its short rails did that after the war; but to replace one million six hundred thousand skilled rail workers in this country would be another story. It could not be done; but a remedy much more terrible to labor and capital could be used in America. Vast as is the mileage of steel rails in this country — from two hundred fifty to two hundred eighty-five thousand miles — far vaster is the mileage of the motor freight and bus public highways. It is so vast that I cannot give it. It cannot be computed. Certainly in New York and Pennsylvania and Texas and California alone the mileage usable by motor truck and bus far exceeds all the steel mileage in the United States. Rather than endure a coal or food famine for a single day resulting from a universal

rail strike, truck and bus on these highways could break a rail strike in twenty-four hours, to the utter ruin of union and rail finance. Labor and capital no longer pull against each other in the rail world. They are paired horses in one team pulling in the same direction for public service; and I do not think I am wrong in saying that the old foolish days of vicious strife between the two have passed. If labor forces its wage level higher than the shipper can stand, or capital forces its traffic charges higher than the shipper can stand — the public has the remedy in its own hands. Both sides know that. Peace has come out of the turmoil, and woe betide the leader who endangers that peace. He will ruin his own rail company, or his own rail union. We must not forget that to-day the public owns the rails; and among the owners of rails are tens of thousands of rail employees, who bought at par and below rail stocks which from sheer excellence of service now stand at 200. Do you think for a moment that the average sane rail man is going to imperil that property? If you do, you are simply a back number thinking in the atmosphere of antagonism that obscured sound balanced judgment in the eighties and nineties. Where rail wages averaged only seven hundred dollars over ten years ago, they now average over sixteen hundred. We are cutting out *hate* as a guide in life. We are also cutting out *dishwater platitudes* about brotherhood. Instead, we use facts for guides, or as near facts as we can dig out of experience; and God prosper the digging!

Can the motor bus and the motor truck ever supplant the rail? I believe the latest figures show that there is one freight car in use for every inhabitant in the United States. There is one motor capable of conveying five people in use for every five inhabitants in the land. These figures cannot be given definitely. They shift every year and every season. That looks as if the motor could and is supplanting the rail; but wait. Let us take facts again. For one class of motor traffic, the motor has decreased both passenger and freight rail traffic from twenty-two to thirty per cent in twenty years. That looks ominous for rail revenues; but examine facts again. At first it was thought the motor would utterly destroy suburban traffic. It didn't. Instead, it killed itself. In other words, in great cities the congestion of motors became so great that in rush hours of blocked traffic you could walk faster on the motor roofs (provided you could hop the space of the engine) than you could ride. The delayed suburbanite had to park his motor and go back to the steel rail. Then it was feared the big motor bus and truck would rob the long distance rail. It didn't. It added to its traffic by feeding in a thousand lateral streams, which the trunk line could not tap. It revived hundreds of little New England back-road towns, which had been dead for twenty years. Obviously trunk lines can't run round back roads, any more than motors can haul heavy loads up and down hills slippery with ice, which the powerful steel rail engine can accomplish either by spiral tunnel or by sheer pulling power. The Cascades and Rockies

furnish hundreds of examples of this. So do New England hills in winter and in sleety spring. Besides, the motor with its twenty million rubber tires and gasoline and steel equipment gives to the railroad carrier an enormous freight in its own requirements. So, short distance and long distance, the motor is helping the rail more than it is hurting it. Where, then, does the decrease of twenty-two to thirty per cent in rail traffic come in? In the hundred-mile zone — the local freight, the local passenger. Does that hurt the rail? Very little, if any, when you balance the number of motors carried by rails and all their parts in replacement, steel, oil, leather, upholstery. If there is one type of freight and passenger traffic which the rail man detests, it is the short local stuff. Except for the brief holiday season in summer and for the peak days in that season — Fridays to Mondays — trains have often to be run with a crew of eleven, on which may travel one, two, perhaps only six passengers, and those between local stations. Of course, such trains do not and cannot pay. I could give an example of such local traffic in the Northwest where six trains a day shuttled in and out on each of two competing railroads; and except for the holiday season, often had only five to six passengers. The trains reduced their service to one train a day. Even then, the passengers carried fell to *one* for some days. The rails then took their trains off completely and put on buses of their own. A terrible howl went up from the little local towns. They were being " passed," " neglected," " junked," " ruined." The rails invited the little town

boards of trade to come in and meet them. They laid the actual traffic record for a year before them and said they would be glad to publish the figures. The boards of trade retreated looking worth about fifteen cents. They didn't want such figures published. Their day as small traffic centers had passed and they had to accept the fact and not curse the rail. The motor had done it.

Is then the story of rails told? As empire builders, yes; as servants of those empires, no. Rails are as living and organic as human life or vegetable growth. They can prosper only as the communities they serve prosper, and their empires can prosper only as the rails prosper. The well-being of one is bound up with the well-being of the other; and neither can be hurt without hurting the other.

What of the future? Who can say? What of the false prophets during a century, who said "to talk of a speed of fifteen miles an hour was madness," and called Whitney a dreamer, and Holliday "an old fool," and tried to race coach horses and pony expresses against steel? What magic scientific inventions may work for rails in the next century, what seer can foretell?

I only know that if we ponder well the lessons of the past and take good care of the present, the future will take care of itself and the white flag of progress lead *whither it must;* and in that faith one must rest, an unshakable optimist.

INDEX

Accommodations, lacking or crude, 65, 127
modern, 478
Adams, Charles Francis, president of Union Pacific, 332
on Erie scandal, 297
on watered stock, 286
Adams, John, realized need of common highways, 46 *et seq.*
Albany, 96
hostile to railroads, 94
travel center, 94
Allen, Horatio, 134, 166, 246, 257
adviser to Erie, 251
engineer, 17, 69
English reports, 22
Ames, Oakes (*see* Crédit Mobilier)
Ames, Oliver (*see* Crédit Mobilier)
Astor, John Jacob, 96, 98
a first backer of steam, 38
early career, 163
fortune, 150
fur trade lost, 156
Auburn & Rochester Railroad, freight concession, 110
poor equipment, 111
Aurora, building of line to Chicago, 224

Bacon, Roger, on horseless carriages, 12
Baggage, carriage of, 8
charge, 4, 6
Baldwin, Matthias, 207
builder of first New York engines, 106
improvement of engine building, 134 *et seq.*
Baltimore, 96
eastern terminus, 82
Baltimore & Ohio Railroad, 489, 511
charter, 70
court injunctions, 70
early restrictions, 70
extensions to Washington, 73
financial lack, 74
gauge, 62
integrity of, 79
mails transferred to, 74
mortgage foreclosure threatened, 76
St. Louis celebration, 314
special music written for, 77, *note*
Bankruptcies, state treasuries, 47
Banks, Biddle chains, 389
chains planned, 168 *et seq.*
Baring Brothers, English bankers, 76
failure, 78, 492
purchasers of American railroad stocks, 76
Barnard, Judge, Erie decision of, 295
Belmont, August, 456, 496
purchaser of Union Pacific stock, 325
Belmont, Peabody & Co., 496
Benton, on land values, 190
Biddle family, bank chains, 168 *et seq.*, 389
cotton trade, 149
fortune, 150
Billings, Frederick, 444; 449, *note;* 453 *et seq.*
economy and caution, 455
proposal, 454 *et seq.*
value of knowledge of West, 456
Binghamton, reason for railroad support, 97
Boats, accommodations, 217
power of propulsion on canals, 56
sociability of canal, 56
(*see also* River travel)
Bonds (*see* Stocks)
Boston, 96
Canadian traffic, 87
canals a disappointment, 82
coastal traffic, 82

effect of War of 1812 on, 87
fall of land values, 82
false sense of security, 81
first to use rail, 81
idea of West, 83
in rail arena, 81
investments, 87
leadership, 92
links, 88
mileage radiating from, 87
Boston-Albany Railroad, 84, 452
pushes westward, 93
Boston & Maine Railroad, 538
Brakes, primitive, 210
Westinghouse air, 478 *et seq.*
Bridges, early Boston, 214
early lack, 28
great, 214
made necessary by railroads, 50
movable unknown, 52
over Mississippi, 195, 214
roofed, 52
Brooks, John, railroad service, 223
Bryan, William Jennings, 522
on low freight rates, 523
on silver standard, 494
Buffalo, hostile to railroads, 115

California, acquired by United States, 356
Destiny theory of growth, 370
early trade development, 358 *et seq.*
fur traders in, 360
gold rush, 117, 155
land grants, 362
missions, 356 *et seq.*
railroad charters, 362
Spanish settlements, 356
statehood, 362
California Pacific Railroad, consolidation of local lines, 376
Camden-Amboy Railroad, monopoly in New Jersey, 133
Canada, purchase of roads in United States, 528
Canadian Pacific Railroad, 196, 202, 426
backed by Canadian government, 427
cause of floating population, 429
Canals, 52, 217
assumed by state, 57
beaten by rails, 55, 471
China, 47
cost, 58, *note*
defects, 27, 53
disappointment at Boston, 82
early American, 48
favored by Dutch, 97
financial failure, 57
France, 47
highways for trade, 48
Mesopotamia, 47
mileage, 53
no locks in early, 54
no winter traffic, 93
power in legislatures, 54
rates cut, 95
served their generation, 54, 56
stock values, 58, *note;* 248
tax exempt, 58, *note*
Carnegie, Andrew, 214
Carnegie Institute Report, 524
Carroll, Charles, on railroad development, 71
"Carrollton March, The," A. Clifton, 77
Cass, Lewis, 449, *note*
chief director, 453
president of Northern Pacific, 444
Central Pacific Railroad, antagonism toward, 377
battling the elements, 352 *et seq.*
Big Four in, 366 *et seq.*
capitalization, 364, 368
ceremony of completion, 345 *et seq.*
conquest of the Sierras, 352–381
construction costs, 372

construction problems, 354 *et seq.*
construction scandals, 355
difficulties of financing, 368 *et seq.*
estimate of Big Four, 379 *et seq.*
estimate of cost, 367
feeders, 375
financing, 388
ground broken, 363
land sales, 371
loss of control by Big Four, 378
"lost" records, 374
method of selecting route, 369
opposition encountered, 371
ramifications, 377
stock distribution, 374
stock sale, 378
stock value, 355
taken over by Southern Pacific, 379
waterfront monopoly, 375
west to east construction, 341, 363
Charleston, South Carolina, first Southern rail center, 163 *et seq.*
income from rails, 167
Charters, advantages to state, 234
handicap, 95
Harlem Railroad, 124
Illinois, 191
in Middle West, 184
made subscription impossible, 94
number issued, 313
railroad building, 94
state rights, 95, 97
Chesapeake and Ohio Canal, 58, *note*
Chicago, early land values, 10
future view of, 218 *et seq.*
great fire, 181
growth as railroad center, 224 *et seq.*
in the fifties, 221
railroads out of, 189 *et seq.*
right of way agreement, 194
Chicago & Alton Railroad, 185, 528, 547 *et seq.*
Chicago, Burlington & Quincy Railroad, 185, 189, 222, 234, 388, 474
acquired by Hill, 504, 506
birth of, 224
early locomotives, 226, 228
earnings, 216, 225
financing of, 223
level ground an advantage, 228
links of, 225
loyalty of builders, 229
number of stations, 226
reconstruction, 224
Chicago, Milwaukee & St. Paul Railroad, 234, 235, 388, 436, 527
completion to west coast, 530
dividends earned, 216
looting charge, 530 *et seq.*
loss through Panama Canal legislation, 531
Chicago, Minneapolis & St. Paul Railroad, 185
freight from Northwest, 433
Chicago & Northwestern Railroad, 183, 185, 189, 234, 235, 388, 436, 511
buys Northern Pacific bonds, 438
freight from Northwest, 433
Chicago, Rock Island & Pacific Railroad, 185, 195, 234, 235, 388
capitalization, 549
dividends earned, 216
salaries and bonuses, 550
wrecking of, 548
Cincinnati, growth, 402
Cincinnati, Hamilton and Dayton Railroad, 550
Cities, marketing needs, 49 *et seq.*
refused right of way to rails, 194
Civil War, and the farmer, 384 *et seq.*

effect on rails, 312–336
helped Northwest, 433
story of the *General*, 315 *et seq.*
troop transports, 196
Clark, New York banker, 96
on railroad contracts, 329
purchase of Union Pacific, 332
Clay, Henry, on land values, 190
Cleland, on stagecoach traffic, 364
Clermont, 34
Cleveland, Grover, 525
Coal, bituminous discovered, 226
growth of railroads for carrying, 129
price reduction, 128
use as fuel, 252
Cobden, Richard, 195
Columbia River, 28
discovery, 45
navigation company, 456
Conductor, above average, 64
salary, 64
status, 64
uniform, 64
Consolidations, 504
forbidden, 526
forced by necessity, 141
Contractors, account padding, 326, 369, 386
Central Pacific subsidiary company, 373
pay methods, 194, 250, 253, 373, 387
Cooke & Company, Jay, 388, 439, 444 *et seq.*; 449, *note*
character, 449, *note*
failure, 445
financier, 460
financing Northern Pacific, 439 *et seq.*
"Cooke's Banana Belt, Jay," 441
Cooper, Peter, builder of famous *Tom Thumb*, 71 *et seq.*
Cotton, panic prices, 151, 169
prospective fields, 155
Court decisions, 195
Erie, 295 *et seq.*, 300
in favor of Santa Fé, 418
on rate fixing, 523
Crédit Mobilier, advertising methods, 329
association with Union Pacific, 327
bond sales, 328
bribery charges, 333
crash, 333 *et seq.*
dangerous capital increase, 328
formation, 326
suit against Union Pacific, 334
Crocker, Charles, 345, 366
compensation as contractor, 373
early life, 367
fortune, 377
in control of construction, 352

Daggett, on early rail service, 375
Dakotas, The, 434
backward in seeking statehood, 430
early settlers, 427
Dana, Charles A., Eastern editor, 448
Delaware & Hudson Canal Company, 16, 133
Delaware & Hudson Railroad, 485
Delaware & Lackawanna Railroad, 129
Denver & Rio Grande Railroad, 410, 528, 550
difficulties, 554
DeWitt Clinton, 101
a curiosity to-day, 99
description, 99
illustration, 100
speed, 99
trial trip, 105
Dey, Peter, 365
surveying for Union Pacific, 339
surveys in West, 337
Dickens, Charles, on bridges, 52
Diven, Alexander, on Erie celebration, 255
Dodge, Grenville, construction methods, 341

experience with hostile Indians, 338
in army, 339
interview with Lincoln, 339
on meeting of two roads, 345 *et seq.*
on progress of Union Pacific, 344
survey work, 337
Douglas, Stephen A., 193, 254, 255
in favor of land grants, 391
on need for rails, 190
Drew, Daniel, 39, 279
appearance in old age, 293
assistants in Erie steal, 293
discarded by Fisk and Gould, 300
entrance into rail world, 268
Erie fight with Vanderbilt, 292 *et seq.*
forced out of Erie, 299
held Erie stocks and bonds, 281
in defeat, 284, 285
personality, 265
reason for going into Erie, 277
removal to New Jersey, 296
rivalry with Vanderbilt, 282 *et seq.*
stock issuing presses, 295
treatment of Erie, 280
Drexel, banker, 456
Duane, director Hudson & Mohawk, 98
Duluth, 458
Durant, Thomas, 337
at transcontinental celebration, 347
fight with Crédit Mobilier, 327 *et seq.*
financing of Union Pacific, 325

East, blind to Western situation, 448
Elkins, Stephen B., 395
Engineering reports, 193
Engineers, railroad, recruits for, 215
Engines, Baldwin, 135
boiler development, 21
construction, 62
cost comparisons, 144
costs, 207
development, 226
devised by amateurs, 69
English not successful in America, 69
first called, 13
first C., B. & Q., 226
first in New York State, 100
greyhound, 228
imported from England, 134
improvements, 144, 210 *et seq.*
low velocity through towns, 70
Rogers, 143
types, 22, 67, 69
wood for fuel, 63
England, early locomotive, 17, 21
engines imported from, 101
engines light, 60
financiers, 195
iron imported from, 99
railroads colossal success, 76, 97
solid roadbeds, 60
Equipment, brakes (*see* separate item)
couplers, 476
cowcatcher, 211
lacking or crude, 65
lighting, 65, 210, 228, 478
improvement, 140 *et seq.*
inventions, 207 *et seq.*
ramshackle, 182
Erie Canal, cost, 52
speed on, 93
Erie, Lake, first steamboat on, 31
Erie Railroad, 129, 452, 489
a public scandal, 297
bank loans refused, 299
beginnings, 243, 246, 251
bond and stock values, 292
buys Northern Pacific bonds, 438
causes of failure, 280 *et seq.*
causes of troubles, 242

celebration of reaching Lakes, 254 *et seq.*
charter, 130, 280
computed cost, 248
construction difficulties, 280
construction mistakes, 250
early stockholders, 249
earnings, 276 *et seq.*
financing, 247 *et seq.*
four receiverships, 305
in new hands, 265–278
in politics, 251, 294 *et seq.*
juggled in Wall Street, 270
lack of money, 246, 250
mortgages, 276
mortgage stock, 279
new directors, 299
reasons for, 130
rebuilding necessary, 277
receiver appointed, 297
refusal to buy Harlem, 245
route pledged, 245
second longest railroad in world, 254
stock, 277
stock juggling, 281 *et seq.*
story of the, 241–264, 279–306
triumph of, 254
Vanderbilt-Drew negotiations, 292 *et seq.*
(*see also* Drew, Fisk, and Gould)
Europe, American exports to, 473
revolutions of 1848, 172
Evans, Oliver, 24, 34
pioneer of steam power, 14 *et seq.*
prophecy, 15
Explorations, Pacific Coast, 33

Fares, early New York State, 104
Farmers, attitude toward railroads, 154
Granger movement born, 386
lack of foresight, 385
prophecies on wheat, 385
prosperity, 154
used first tracks as highways, 61
value of lands, 392
value of produce, 529
war prices of produce, 312, 383, 384
work for railroad, 340, 386
Featherstonhaugh, George, 97 *et seq.*
removal to Philadelphia, 98
trip to England, 98
Federal government, returns from land grants, 197
Fenian raids, 304; 307, *note*
Fillmore, Willard, 254, 432
Finance, Auburn & Rochester Road, 110
buccaneering, 495 *et seq.*, 517–560
Erie, 247 *et seq.*
foreign investors, 79 *et seq.*, 465
subscriptions, 104
Tonawanda Road, 113
total railroad investment, 216
Utica & Schenectady Railroad, 107, 108
Financiers, Eastern, 193
English, 195
Fish, Stuyvesant, 96, 98
expansion plans, 490
financial policy, 490
in control of Illinois central, 486, 489
Fisk, James, 267, 269, 299
appearance, 271
association with Drew, 270
auditor of Erie, 300
broker for Drew, 298 *et seq.*
character, 271
circus career, 269
death, 305
early life, 268
in Wall Street, 269
purchase of Union Pacific, 332
social life, 270
used by Drew in Erie, 293 *et seq.*
women and, 270, 300

Fitch, John, 34
pioneer of steam power, 15
Folwell, statistics on food prices, 432
statistics on population, 429
Forbes, John M., father of the Burlington road, 222
interest in Middle West, 321
selection of aides, 229
France, attitude of engineers, 33
canals, 47
Franco-Prussian War, effect on prices, 433
Free Press, Manitoba, 306, *note*
Freight, canal *vs.* rail, 95
classification, 142
cost to West, 235
east to west, 430
rates, 364
rates over wagon trail, 394
transfer points, 285
uncertainty of shippers, 66
up *vs.* down, 166
west to east, 235, 430
Fuel, 226
change to coal, 212
Fulton, Robert, 36
actual contribution, 34
art student, 33
died poor, 34
experiments, 33
partner of Livingston, 33
Fulton-Livingston, monopoly, 41
patents, 38

Gallatin, Albert, early survey, 74
realized need of common highways, 46 *et seq.*
transportation report, 51
Garfield, James, as a mule driver, 56
Gauges, in Massachusetts, 85
uniform, 142
uniform on Pennsylvania Railroad, 138
Germans, bankers, 116
emigration to America, 115
immigrants pushing West, 115
importing firms, 116
settled in Middle West, 179
Gold, demand in trade, 149
discovery in California, 155
English loans, 153, 170
hold-ups of stagecoaches, 395
international medium of exchange, 493
roads ready to carry, 235
Gordon, Lord Gordon, arrest, 303
authorities on, 306
Erie fake, 302
in New York, 302 *et seq.*
suicide, 304
Gordon, report on Oregon, 361
Gould, Jay, 433, 484
and Lord Gordon Gordon, 302 *et seq.*
broker for Drew, 298 *et seq.*
death, 306
early life, 273
education, 274
engineering work, 275
fortune, 306
in control of Union Pacific, 332
in Southwestern rails, 403, 413, 418
in Wall Street, 277 *et seq.*
in Western rails, 377 *et seq.*
knowledge of Erie, 276
parentage, 274
personality, 271 *et seq.*
president of Erie, 299
protected by thugs, 298
rivalry to Santa Fé, 413
second imposition on, 307, *note*
used by Drew in Erie, 293 *et seq.*
weaknesses, 272 *et seq.*
Grain, new wheat brought from Russia, 409
price and increase, 391
war prices, 384
Grangers, demand of rails, 517 *et seq.*

prepared way for Interstate Commerce Commission, 524
Great Lakes, 50
keel-boat, 29
method of pay, 29
small boats not practical, 28 *et seq.*
Great Northern Railroad, 370, 426, 462 *et seq.*
ramifications, 468
Great War, effect on farming, 529
effect on freight revenues, 529
Greeley, Horace, on boat travel, 217
taken in by English impostor, 302
Guadalupe Hilalgo Treaty, 356

HARLEM RAILROAD, charter, 124, 245
cost, 124
first use, 213
purchase by Vanderbilt, 283
Harper, refusal of presidency of Erie, 252
Harriman, Edward H., 452
antagonism toward, 482
associates in Wall Street, 484
collision with Morgan, 488
conflict with Roosevelt, 511, 546 *et seq.*
constructive policy, 492
death, 512
early life, 481
enemies, 491
failure to leave biography, 512
finance methods, 501
foundation of private fortune, 498
illness, 503
improvement of Union Pacific, 542
in brokerage business, 485
in complete control of Union Pacific, 501
in rails, 485 *et seq.*
inspection of Union Pacific, 498
interest in settlers, 499
Interstate Commerce Commission investigation, 491, 546 *et seq.*
last year, 543
marriage, 485
Northern Pacific stock purchase, 506
opposition to Fish policy, 490
owner of small line in New York State, 486
parentage, 467
physique, 481
present rail system, 502
purchase of Southern Pacific, 502
purchase of Union Pacific, 497 *et seq.*
rail stock purchases, 491
rivalry with Hill, 503–513
status in rail world, 379
work in San Francisco earthquake, 511
work with boys, 482 *et seq.*
Harriman, Mrs. E. H., character, 484, 492
Hill, James J., 426 *et seq.*, 452 *et seq.*
conflict with Harriman, 503–513
criticism of rail management, 467 *et seq.*
early life, 459
failure to leave biography, 512
fortune, 460
great rail builder, 461
judgment, 460
mine purchases, 470
plans to use Panama Canal, 471
president of Great Northern, 461, 463
refusal to give up Northern Pacific, 506
resignation from Great Northern 462
river transportation, 459, 465
stock purchases, 462 *et seq.*

History of Finance, Noyes, 448, *note*
History of Minnesota, Dr. Folwell, *notes on* 306, 448
History of Transportation, Meyer, 11, *note*
Holliday, Cyrus K., beginnings of Santa Fé, 400
contrast with Gould, 403
early career, 399
father of Santa Fé, 398
general opinion of, 404
sale of Santa Fé bonds, 401
unerring judgment of men, 411
vision of new West, 399 *et seq.*
work for Santa Fé, 412
Hopkins, Mark, 368
fortune, 377
personality, 367
Hoxie, contractor for Union Pacific, 326
fight with Crédit Mobilier, 327 *et seq.*
Hudson's Bay Company, 158, 361, 389
Hudson & Mohawk Railroad, 97, 101–104, 110
accommodations, 102
cost, 98
engines built at home, 101
extension to Troy, 102
financing, 101–104
fines, 102
loan from state, 102
money borrowed for improvements, 103
salaries, 103
stock values, 98
Hudson River, 27
route west, 84
Hungerford, Edward, on waterways and rails, 544, *note*
Huntington, Collis P., 345, 366
business in Sacramento, 366
contribution to survey work, 365
death, 502
early career, 366
great rail builder, 461
interest in southern route, 375
on construction difficulties, 363
railroad scandal, 389
shift to Southern Pacific, 378

Illinois, 425
fund for rail building, 191
returns from land grants, 197 *et seq.*
state debt, 190
Illinois Central Railroad, 185, 189, 234, 387, 486, 511
beginning, 193
costs, 193, 325
earnings, 216, 490
first links, 221
land grants, 197, 199, 449, *note*
names associated with, 195 *et seq.*
ramifications, 194 *et seq.*, 199
Immigration, 529
Nordic, 311
reasons for heavy, 173
types, 311
vital strains represented in, 179
war and, 311
Indian massacres, effect on population, 430
Sioux, 429
Indiana, state debt, 190
Indians, chief at Erie celebration, 257
in California missions, 357
in South, 162
in Southwest, 394
Mexican victory over, 394
names of steamboats, 6
opposition to steam, 32
raids on railroad gangs, 342 *et seq.*
terror of steamboat, 31
unfriendliness, 337 *et seq.*
white invasion of Oregon, 159
Interstate Commerce Commission, 379, 386, 490, 504, 518

early records, 11, *note*
examination of St. Paul, 530
first commissioners, 525
foundation, 524
increase of power, 524 *et seq.*
inflexibility of regulations, 91
investigation of Union Pacific, 546 *et seq.*
lack of authority, 495
on Southwest rails, 555
power over rates, 526
queries answered by, 557 *et seq.*
report on New Haven, 534
reports on exploitation of rails, 553
Inventions, 205–217
Investors, at a disadvantage, 95, 97
Ireland, Archbishop, Catholic prelate, 427
Irish, as railroad laborers, 260 *et seq.*, 344
character, 116
emigration to America, 116
first unskilled labor, 116
political power, 116
trades followed by immigrants, 179

Jay, director of Hudson & Mohawk, 96, 98
Jefferson, Thomas, 91
realized need of common highways, 46 *et seq.*
Judah, Theodore, estimated cost of railroad, 366
surveying for Central Pacific, 365 *et seq.*

Kansas, land sales, 335
political history, 399
Santa Fé service, 406
value of rails in, 332
Kansas City Southern Railroad, 528
Kittson, Norman, 426 *et seq.*, 460
sale of Great Northern stocks, 466
Kuhn, Loeb & Company, 496
rail reorganization, 505

Labor, Chinese, 354
compromise with capital, 566
enlistment in Civil War, 315
hardships suffered, 191 *et seq.*
machinery a great factor, 209
number in rail industry, 565
railroad gangs, 340
skilled increased, 209
types in railroad, 340, 352 *et seq.*
unions, 565
wages for unskilled, 192
La Follette, Robert M., 522
Land grants, Chicago, Burlington & Quincy, 229
double demand for Union Pacific, 323
early, 185
earned by roads, 200
era of, 189–204
essential to rail building, 202
first, 46
forced on railroads, 54
frauds in, 382
in California, 359
mortgaged as patented, 453
not a cure-all, 193, 196
not given to territories, 430
patented only as road was built, 453
patents, 192
railroads' payment to government, 197
reason for, 383
records destroyed, 201
sold to soldiers, 312
Spanish, 355, 359
statistics on, 203–204
total value, 199
Lands, collapsed values, 555
first free sites for stations, 106
frauds and scandal, 434

gamble, 433 *et seq.*
increased value, 392
Middle West cheap, 117
"refuse," 184, 190, 198
tax exempt, 197
ultimate value, 201, 229
value, 10; 58, *note*, 198
Legislation, 184
bribery in Erie case, 294
conflicting state, 524
Elkins Law, 526
Hepburn Act, 526
in Massachusetts, 83
Nebraska Case, 522
obstructing laws repealed, 103
on iron rails, 114
rail tolls to canals abolished, 115
rails *vs.* Panama Canal, 531
restrictive, 70
Transportation Act of 1920, 510, 518 *et seq.*, 526
Lehigh Valley Railroad, 129
Lewis and Clark, 91
ascend the Missouri, 28, 36
Lewis, electric invention, 478
Lexow Committee, 267
Lincoln, Abraham, advocate of transcontinental road, 339
approves bonds for transcontinental line, 323
as railroad attorney, 195, 338
in favor of land grants, 391
on need for rails, 190
Links, experience alike, 107
supplanted by motor highways, 84, 89
Livingston, Robert, 36
financial backer of Fulton, 34
minister to France, 33
partner of Fulton, 33
Loder, Benjamin, president of Erie, 252, 257
quoted on travels, 263
Lord, Eleazer, 266, 291
character, 243
early life, 243
lack of engineering experience, 246
president of Erie, 252
wrong judgments on rail building, 243 *et seq.*
Loree, on unneeded railroads, 534
Lumber, in Middle West, 174
valuable, 434

Mackenzie, Sir William, 426, 528
Madison, James, realized need of common highways, 46 *et seq.*
Mail, Toronto, 306, *note*
Mails, competition for carrying, 230 *et seq.*
fast routes, 230
first carried, 104
pony express, 231
use of railroads for carrying, 198
Man, of the frontier, 449, *note*
Manhattan Fire Insurance Company, 243
Mann, Sir Dan, 426, 528
Marshall, John, monopoly decision, 41
Massachusetts, difference in rates, 86
fares in, 85
first to use heavy engines, 85
forbade stock dividends, 67
summary of lessons learned, 89 *et seq.*
McCabe, J. L., book on Granger movement, 517
Mexican War, 154
Meyer, on railroad failures, 527 *et seq.*
Miami Canal, 57, *note*
Michigan, 425
early experience in rails, 221 *et seq.*
state debt, 190
Michigan Central Railroad, charter, 224
construction, 224
dividends earned, 216

Middle West, birth of manufacture, 314
colonizing of, 156
death toll among pioneers, 177 *et seq.*
effects of sudden wealth, 392
great rail lines developed, 235
need for railroads, 184, 189
pioneers, 176 *et seq.*
prosperity of immigrants, 311
rail difficulties, 184
railroad development, 182
settled by Europeans, 174 *et seq.*
Minnesota, 434
backward in seeking statehood, 430
early settlers, 427
suffered from panic of 1873, 429
suffered from Sioux massacres, 429
Missions, California, 356 *et seq.*
Oregon, 158
Mississippi River, 27
steamers on, 433
Missouri, Kansas & Texas Railroad, 528
Missouri Pacific Railroad, 418, 528
difficulties, 554
Missouri River, 27
first steamboat on, 31
Missouri, value of rails in, 332
Mohawk River, route west, 84
Money, banknotes, 149
gold debts paid with paper, 442
paper debts, 155
scarcity, 197
war value of paper, 442
(*see also* Gold)
Monopoly, New York–New Jersey conflict, 38
Supreme Court decision, 41
Montana, 434
Morgan & Company, J. P., 456, 543
bankers, 439
finance methods, 551
rail reorganization, 505
Morgan, J. P., 456
connection with New Haven scandal, 543
dislike of Harriman, 489, 504
Morley, in Canyon Fight, 416
Santa Fé engineer, 415
Morris, Gouverneur, 193
Mott, on Fisk in Wall Street, 269
Mountains, barrier to colonization, 163
Mount Stephen, Lord, 388, 426 *et seq.*, 460
backer of Hill, 428

Negroes, as freight, 166
early labor in South, 162
New England, charters for right of way, 67
repealed hampering railroad laws, 68
New Hampshire, legislation, 87
unfriendly to railroads, 87
New Jersey, attitude toward rails, 133
steamboat traffic, 38
News, Missouri, 230
New York Barge Canal (*see* Erie Canal)
New York Central Railroad, 286, 452, 486, 511
buys Northern Pacific bonds, 438
first links, 284 *et seq.*
gauge, 62
lease on Boston & Albany, 92, *note*
links forming, 100–117, 123
purchase of Union Pacific stock, 329
ramifications, 287
stocks doubled, 286 *et seq.*
New York City, 249
fall of land values, 82
need of Western market, 128
profits diverted to Boston, 96
railroad growth, 84
Western trade, 96

New York and Hudson Railroad, 284
New York, New Haven and Hartford Railroad, 84, 527
  loss to investors, 544
  manipulation, 534 *et seq.*
New York State, 14
  awakening, 89
  canal route west, 83
  crude waterways, 93
  mistakes, 99
  railroad geography, 128
  rivalry with Boston, 251
Northern Pacific Railroad, 435 *et seq.*, 489, 505
  coal lands along route, 454
  colossal loss saved by bondholders, 454
  cost, 437; 449, *note*
  debts, 452
  effect of Franco-Prussian War on, 442
  effect of Indiana war on, 449, *note*
  gulled by English impostor, 301 *et seq.*
  high cost of building, 452
  increased value of stock, 506
  in receiver's hands, 451
  land grants, 302, 440; 449, *note*
  left a wreck by Cooke, 451
  method of building, 440
  mileage at time of bankruptcy, 451
  mistakes by first backers, 436
  name first used, 436
  second crash 1893, 455
  stock, 454
  stock stampede, 507 *et seq.*
  value of timbered land grants, 456
  value of coal lands, 456
  "wash sales," 444
Northern Securities Company, 474
  Federal suit against, 509
Northwest, travel in middle eighties, 423 *et seq.*

Ogden, in Western rails, 247, 444, 449, *note*
Ohio, 425
  opposition to steam, 12
Ohio River, 27
  path of migration west, 25
  problem of falls, 37
Oil, discovery, 201
  value in Great War, 555
Old Ironsides, first Baldwin engine, 135, 137
Oliphant, Lawrence, 266
Oregon, England's release of, 156
  migration to, 117
  missions, 158
  the trail to, 158
Oregon Railway and Navigation Company, 457
Oregon Short Line, 501
Orient, demand for gold, 150

Pacific Mail Steamship Company, 371
Panama Canal, 471 *et seq.*
  effect on rails, 471
  ship operations on, 531
Panama Canal Act, 471
Panic of 1837–1839, 126, 146
  benefit to railroads, 159
  effect of good crops on, 154
  effect on New York, 126
Panic of 1873, 443 *et seq.*
  effect on nation, 435
  inevitable, 447
  worst ever known in United States, 446
Panic of 1893, bank failures, 493
  commercial failures, 493
  contributing causes, 494
  effect on rails, 489, 492
  not a rail panic, 493
  rail securities' loss, 492
Panic of 1907, banks in difficulty, 541
Patents, 38
  Fulton litigation, 41
Pennsylvania, 486

loss through early rails, 134
railroad development, 132
wrong railroad policy, 136
Pennsylvania Railroad buys Northern Pacific bonds, 438
example of true public ownership, 137
financing, 137
first use, 213
gauge, 62
gravity road, 16
mileage in 1850, 138
regulation of conductor's duties, 139
Pere Marquette Railroad, 550
Perham, a backer of Northern Pacific, 436
died in poverty, 437
president of Northern Pacific, 437
Perkins, George W., 229
Peter, T. J., character, 403
enthusiasm for Western rails, 402
Philadelphia, railroad growth, 84
Pioneer Press, St. Paul, 306, *note*
Politics, bribery a fine art, 285
Erie in, 294
rail building and, 369
rails in, 528
Tweed ring, 269
vote buying, 299, 369
Polk, James K., 361
Population, effect of rails on, 430, 562
fluctuation, 429
Portland, distributing point, 458
Public ownership, attempts at, 47, 57, 521
failure, 222
failure in Middle West, 189 *et seq.*
in Pennsylvania, 134
Pullman, George Mortimer, 469
Pyle, biographer of J. J. Hill, 467
Races, horse *vs.* engine, 99
Radicalism, rail politics, 520 *et seq.*
Railroads, accident and death rates, 215
accommodation (*see* separate item)
Albany to the Lakes, 112
barriers to overcome, 93, 97
beginnings of through lines, 84
benefits of, 391 *et seq.*
buccaneering, 495 *et seq.*
building mistakes in Massachusetts, 85
built too fast west of the Mississippi, 447
camps, 340
Civil War influence on, 312–336
coal carrying, 129
compared with caravan routes, 564
consolidation (*see* separate item)
construction too fast, 117
contrasting characters in, 379, 384
court decisions (*see* separate item)
court injunctions, 71
demand for, 318 *et seq.*
desperate need for freight, 104
difficulties of building, 244, 258
early construction, 60
early cost, 51
early mistakes, 59
effect on centers of population, 562
effect on growth of population, 430
effect on industries, 457
failures, 531, 554
famous races, 71, 99
first passenger coaches, 63
first time-table, 114
first Western service, 374
foreign money in, 79
fortunes made in, 391

freight limited, 95
gauge varying, 62
gravity, 15
Great War effects on, 521
helped by immigrants, 115
human factor in growth, 183, 229
improvements, 470
in politics, 375
investment dangers, 80
"isthmus wars," 62, 131, 285
legislation (*see* separate item)
liability for damages, 108
links (*see* separate item)
longest line in 1833, 166
mileage, 312, 566
mob interference, 14
modern, 101
motor bus competition, 568 *et seq.*
move wheat crop, 458
name changes, 234
names in early, 96
national groups, 289
nationalization demanded, 520 *et seq.*
nature of payment to workmen, 78
never completed, 114, 476 *et seq.*
New England building methods, 84
New York merchant-banker support, 96
not a common highway, 85
number of employees, 208
opposition to, 13, 63, 131, 253
personnel, 473
pile trestles unsafe, 246, 258
primitive safety device, 62
progress and, 561 *et seq.*
prosperity, 216
public ownership (*see* separate item)
questionable financing, 388 *et seq.*
Radical ideas on, 520 *et seq.*
reasons for decreased revenues, 554
reasons for failure, 200
reasons for lagging in South, 161
rebates (*see* separate item)
right of way (*see* separate item)
settlers necessary for earnings, 230
speed, 66
state aid, 67
state overregulation, 495
stock sales, 51
superior to canals, 57
swindlers (*see* Finance)
test for safety by, 71
tied up with banks, 168 *et seq.*
tracks used by farmers, 61
train (*see* separate item)
transcontinental route chosen, 323, 337
use to miners, 458
vital factors in development, 74, 78
"wildcat," 313
working evils, 78
(*see also* individual states)
Rails, iron introduced, 182
manufactured in Scranton, 253
Rantoul, Robert, 193
Rates, based on canal charges, 102
cause, 90
changes a disadvantage to shippers, 489
coal, 253
cut by Vanderbilt, 288
fair, create prosperity, 91
farm products, 50
freight, 84, 90
Granger demands regarding, 518
Rates, postal, 6
rails *vs.* turnpikes, 65
reduction demanded, 386
regulation, 86, 526
traffic *vs.*, 47
variable, 115

Reading Railroad, 129, 489
a coal line, 136
Rebates, forced on railroads, 54
forbidden by law, 525
to big shippers, 140 *et seq.*, 292, 386, 495
to canals, 54, 95, 107, 110, 115, 140
Riel Rebellion, 304
Right of way, land grants along, 197
town opposition to, 194
Ringwalt's Compendium, 11, *note*; 524
Ripley, president of Santa Fé, 403, 410
on reason for Santa Fé success, 421
revival of Santa Fé under, 420
River travel, cargoes, 37
passengers, 37
trial trip from New York to Albany, 34
with English engine, 34
Rivers, ancient routes of commerce, 24
connecting, 48
craft, 25, 30
loss, 31
necessity of ascending, 27
need for canals, 48
problems, 30
steamboats on, 36
Roads; ancient, 561
corduroy, 5
early need for development, 45
need in East, 83
stage, 5
toll gates, 46, 65, 214
turnpikes, 63
Robinson, Albert, contribution to rails, 411
early life, 411
rôle in Canyon Fight, 411
Santa Fé construction engineer, 403
Rochester, reason for railroad support, 97
Rochester-Niagara Railroad, 115
Rochester & Syracuse Railroad, 111
Roosevelt, Nick, report to Fulton and Livingston, 37
Roosevelt, Theodore, 96, 247
opposition to Harriman, 511, 546 *et seq.*
Rothschilds, English bankers, 439
Russell, Charles Edward, 522
Russians, settlers in Southwest, 407

St. Lawrence, route west, 83
St. Louis and San Francisco Railroad, difficulties, 554
St. Paul, 511
opposition to rails, 432
St. Paul, Minnesota & Manitoba Railroad, 463
St. Paul & Pacific Railroad, 458, 462
Santa Fé Railroad, 370, 377, 489, 511
big men in, 403
" Canyon War," 410 *et seq.*
cattle transportation, 406
charter, 400
choice of route, 412
constructive policy, 408
feeders discarded, 419
financing, 401
first capitalization, 402
freight increase, 406
ground broken, 401–404
house-to-house sale of bonds, 401 *et seq.*
land grants, 400, 407
line to Colorado mines, 410, 414 *et seq.*
mountain construction, 412
present place in rails, 405
ramifications, 418
reason for route, 398 *et seq.*

receivership, 419
revival, 420 *et seq.*
Russian immigrants brought in, 407 *et seq.*
the old trail, 394–422
tourist traffic, 420
winning of Supreme Court decision, 418
Savannah, first steamboat to cross Atlantic, 26
Schenectady, reason for railroad support, 97
Schiff, Jacob F., 506, 547
Harriman's banker, 498
Schurz, Carl, rise to eminence, 196
Scranton, George, purchaser of Union Pacific stock, 325
rail manufacturer, 253
Seattle, distributing point, 458
Shaughnessy, Baron, 196, 428
Sherman Anti-Trust Law, 526
Signaling, 210
automatic, 480
bells installed, 211
semaphoring, 205
towers for, 207
Silver, as money standard, 494
discoveries in Colorado, 410
output increase, 494
reasons for unpopularity, 494
Smith, Donald (see Strathcona, Lord)
Smith, John Gregory, asked to resign presidency, 443
president of Northern Pacific, 437
South, first rails, 166
rail costs, 167
rail growth, 161–171
rails crippled, 314
slave labor, 162
traders, 163
transportation methods, 28
waterways roads, 162
Southeast, early growth, 14
antagonism toward, 377
beginnings, 376
charges against, 355
connection with Central Pacific, 376
construction methods, 376
new lines formed, 378
rivals of, 377
Southern Pacific Railroad, 418
Southwest, invaded by cotton growers, 155
plague and drought, 419
Spokane, distributing point, 458
"Squatters," rights respected, 430
Stagecoaches, cost, 9
inns used by, 3
winter passenger service, 93
Stanford, Leland, 345, 366
at transcontinental celebration, 347
early life, 367
shift to Southern Pacific, 378
Stations, 65
architecture, 564
first great, 214
Steam, advantages, 53
attitude toward, 12
development on land, 59
impediment on land, 59
invaded the canals, 56
needed money, 59
supreme on water, 59
Steamboats, considered an achievement, 34, 37
early monopoly, 38
for land and water, 18, 24
growth, 36
Indian names, 6, *note*
Indians terrified, 31
ocean, 26
passenger comforts, 36
Stephen, George (*see* Mount Stephen, Lord)
Stephenson, George, 13, 19 *et seq.*
first "Locomotion," 22
early career, 20
successful steam railroad engineer, 20
Stevens, Colonel John, 34

early charter, 134
surveys, 435
Stocks and Bonds, 505
dangers to foreign investors, 386
early values, 387, 390
public unwilling to buy, 67
question of profits, 289, 291
Rochester & Syracuse Railroad, 111 *et seq.*
stampede in rails, 508
subscriptions, 95
war effect on, 465
watered, 286 *et seq.*, 301, 383 *et seq.*
wildcat rail, 494
Strathcona, Baron, 388, 426 *et seq.*, 460
backer of Hill, 428
Strickland, engineer, 17, 69
English reports, 23
Strong, president of Santa Fé, 403
Superior City, 458
Surveys, costs, 191, 194
for transcontinental line, 337 *et seq.*
Sweeney, Peter, 267, 299
receiver of Erie, 297
Syracuse, reason for railroad support, 97
Syracuse & Utica Railroad, celebration, 107
freight concession, 107
no state or city aid, 108
operating expenses, 108

Tacoma, distributing point, 450
Tammany Hall, 294
and Harlem Railroad, 284
Taylor, Bayard, 448
Telegraphy, first use for train dispatching, 206 *et seq.*
forerunners of, 205
on New York Central, 287
Territories, no land grants in, 430
Texas Pacific Railroad, 528
Tonawanda Railroad, 112, 113
Tracks, tolls for use of, 70
used by private vehicles, 70
Traffic, permanent *vs.* transient, 399
Trains, duties of early crews, 215
early, 209
first English, 21
first uniform for conductor, 139
Pullman cars, 470
unwritten law for passing, 61
Transcript, Boston, 81
Transportation, books on, 10, *note*
conflicting laws, 41
fares, 6
first survey, 51
future, 220
inland water (*see* Rivers *and* Great Lakes)
mountain barriers, 49
natural waterways limited, 48
primitive, 396 *et seq.*
roads (*see* separate item)
speed, 8
stagecoach (*see* separate item)
tax on steamboats, 41
Trevithick, Dick, high pressure experiments, 18
Tunnels, cost of first, 213
development, 213
Wasatch, 500
Tweed, William Marcy, 267, 283, 299
driven from public life, 305
part in Erie scandal, 293, 298

Underwood, president of Erie, 551
interview with Morgan and Harriman, 551 *et seq.*
Union Pacific Railroad, 489, 497
army inspection of, 326
ceremony of completion, 345 *et seq.*
completion, 330
Congressional discussion, 324
construction methods, 487
construction problems, 354 *et seq.*

cost per mile, 329
earning increases, 501
east to west construction, 340, 363
financing, 327
first stock sold, 324 *et seq.*
government investigation, 547 *et seq.*
ground broken, 325
improvements, 499
land sales, 335
mountain construction, 344
profits in Northern Pacific, 511
purchase of other rails, 511
stock and bond values, 331
subsidy for, 323, 325
Wasatch tunnel, 500
(*see also* Crédit Mobilier), 327
United States boat progress slow, 25
early growth, 23
early nineteenth century prosperity, 146 *et seq.*
Eastern trade, 148 *et seq.*
foreign trade, 149, 151
heavy engines, 60
immigration (*see* separate item)
land grants (*see* separate item)
light roadbeds, 60
mileage in early nineteenth century, 51
national debt paid, 149
parallel movements in settling, 172, 176
population increase, 312
results of panic, 151
transportation problem, 27
Utica, hostile to railroads, 95
reason for railroad support, 97
travel center, 95
Utica-Buffalo Railroad, 115
Utica & Schenectady Railroad, 108
fares, 104
first free sites, 106
first to adopt rules for conductors, 106
no freight, 104
no salaries for first officers, 104

Vanderbilt, Cornelius, 244
appeal to courts, 295
appearance in old age, 293
character, 273
consolidation plan killed, 298
effort to merge lines, 284 *et seq.*
endorsement of Erie mortgages, 279
entry into Wall Street, 279
Erie fight with Drew, 292 *et seq.*
fortune, 150, 283
improvement of roads, 286 *et seq.*
plans for expansion, 291 *et seq.*
purchase of Harlem Railroad, 283
purchase of New York & Hudson Railroad, 284
refusal to sell N. Y. C. stock to speculators, 286 *et seq.*
rivalry with Drew, 282 *et seq.*
schooner-ferryman, 39
selfish motives aid to United States, 39 *et seq.*
sued by Fulton-Livingston, 41
use of Tweed, 293
yacht cruise to Europe, 282
Vanderbilt, William, 279
Van Horn, William, 434
construction boss and section manager, 428
rise to eminence, 196
Van Rensselaer, director Hudson and Mohawk, 98
Vermont Central Railroad, 437
Villard, Henry, German financier, 456
buys Northern Pacific stock, 457
Vinci, Leonardo da, canal locks, 54
Vulture era, not typically American, 236 *et seq.*

Wabash Railroad, 189

Wadsworth, fostered Aurora line, 224
Walk on the Water, 37
Wall Street, 293
War of 1812, 146
  blow to Boston's prosperity, 82
Warehouses, freight, 65
"Wash sales," effect on public, 444
Washington, George, 5
  called Father of American Transportation, 46
  death, 45
  on road improvement, 45
Washington, William, on watered stock, 288 *et seq.*
  reports on rails, 524
Water Power, development, 541 *et seq.*
Watt, James, inventor, 18
Webster, Daniel, 224, 254
  in favor of land grants, 391
West, 81, 91
  discovery, 319
  exploration, 320, 358
  known as Pacific Coast, 117
  migration to, 172–185
  part in railroad development, 25
  prosperity, 420
  settlement follows railroad, 319
  stage traffic, 364
  the covered wagon, 180
  traffic to and from, 59
West, Benjamin, 33
Western Pacific Railroad, 528
  difficulties, 554
Westinghouse, George, invention of air brake, 479 *et seq.*
Whitman, Dr., work for Oregon, 158
Whitney, Asa, 337, 435
  father of land grants, 322
  land agreement with government, 322
  plea for transcontinental rails, 320
Wilkes, Commodore, 361
Winnipeg, 432, 429
  treatment of American detective, 304
Wisconsin, 425

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